



July 27, 2015

Air and Radiation Docket  
Environmental Protection Agency  
Mailcode 2822T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Re: Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, Docket ID No. EPA-HQ-OAR-2015-0111

Submitted via [www.regulations.gov](http://www.regulations.gov)

The American Fuel & Petrochemical Manufacturers (“AFPM”)<sup>1</sup> and the American Petroleum Institute (“API”)<sup>2</sup> submit these comments in response to the Environmental Protection Agency’s (“EPA” or “Agency”) proposed rule entitled *Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017*.<sup>3</sup> AFPM and API members are directly regulated as obligated parties under the Renewable Fuel Standard (“RFS”). Several members also are renewable fuel producers.

API and AFPM support EPA’s long overdue recognition of the E10 blendwall (the ethanol saturation point for gasoline which should take into account the demand for E0 and other limitations on using gasoline blends with more than ten percent ethanol). As EPA acknowledged, the E10 blendwall results from two primary factors: (1) the *decreasing* size of gasoline market and (2) the requirements imposed by the Energy Independence and Security Act of 2007 (“EISA”) to blend ever-*increasing* volumes of renewable fuel into the Nation’s fuel supply. Given that the vast majority of cars, trucks, and other non-road vehicles and engines in the United States can only be fueled with E0 or E10 gasoline without voiding the manufacturer’s warranty or potentially damaging the engine, the E10 blendwall imposes a major impediment for obligated parties to achieve the statutorily mandated volume requirements. Transportation fuel producers and importers are presented with only undesirable options: produce gasoline with

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<sup>1</sup> The American Fuel & Petrochemical Manufacturers (“AFPM”) is a national trade association representing virtually all U.S. refiners and petrochemical manufacturers. AFPM’s refinery members comprise more than 95 percent of U.S. refining capacity.

<sup>2</sup> API is the national trade association representing all aspects of America’s oil and natural gas industry. Its more than 625 members – including large integrated companies, exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply companies – provide most of the nation’s energy. Since 2000, the industry has invested over \$2 trillion in U.S. capital projects to advance all forms of energy, including alternatives.

<sup>3</sup> 80 Fed. Reg. 33100 (June 10, 2015) (the “Proposed Rule” or “NPRM”).

higher ethanol content that can damage consumers' cars and expose suppliers to liability for damages and that almost no one will buy or use in the United States in any event; run a compliance deficit for one year that further complicates compliance in future years; acquire RINs at exorbitant prices; or reduce the volume of domestic transportation fuel supplied in order to comply with the RFS percentage requirements. Any of these options results in adverse impacts for obligated parties, consumers of transportation fuels and the economy. Absent adjustment of the mandates consistent with reality, the ill effects of the RFS could spiral out of control as obligated parties are forced to take drastic action to remain in compliance with an infeasible law. Knowingly violating the Clean Air Act is not an option. Thankfully, EPA appears to understand and appreciate this unfortunate state of affairs and is rightfully taking action using its cellulosic biofuel and general waiver authorities to avoid severe adverse consequences.

AFPM and API fully support EPA's decision to exercise a combination of the Agency's cellulosic biofuel and general waiver authorities to reduce the volumes of renewable fuel for 2014, 2015, and 2016. The waivers take into account the ethanol blendwall and the limitations on the ability to blend additional renewable fuel into the Nation's fuel supply. This action, with some additional alteration in required volumes, will help avoid the significant economic consequences of the E10 blendwall.

Despite API and AFPM's support for these actions, however, we continue to have serious concerns regarding EPA's Proposed Rule, and offer the following recommendations to address these concerns.

1. AFPM and API believe that adjustments should be made to EPA's proposed waiver for the advanced biofuel and total renewable fuel volumes for 2016. Although EPA correctly acknowledges the potential adverse effects of the E10 blendwall, the proposed volumes continue to suffer from several methodological flaws. Specifically, the proposed volumes (i) underestimate consumer demand for E0, (ii) fail to acknowledge regulatory constraints on introducing greater volumes of E15 and E85 in the marketplace, and (iii) fail to acknowledge technical and structural barriers to introducing greater volumes of E15 and E85 in the marketplace. As a result, EPA's proposed advanced biofuel and total renewable fuel volumes for 2016 exceed the maximum volume of renewable fuel that can be expected to be consumed. In particular, EPA's decision to establish a 2016 standard that requires ethanol to be blended with gasoline in amounts that exceed the E10 saturation point is divorced from market reality.
2. API and AFPM believe that adjustments should be made to EPA's proposed waiver for the cellulosic biofuel volume for 2016. The D.C. Circuit has previously held that EPA must "take neutral aim at accuracy" in establishing the proposed cellulosic biofuel requirements. *API v. EPA*, 706 F.3d 474, 476 (D.C. Cir. 2013). The Proposed Rule fails to satisfy this requirement because it relies on inaccurate methods for forecasting cellulosic biofuel production, including forecasts from cellulosic biofuel manufacturers that have historically overestimated actual production. EPA has also violated the Administrative Procedure Act by failing to disclose the Energy Information Administration's estimates of cellulosic biofuel production, which EPA must use as the basis for its cellulosic biofuel volume requirements. *See* 42 U.S.C. § 7545(o)(7)(D)(i).

3. Although AFPM and API support EPA's proposal to grant waivers based on a determination of inadequate domestic supply, the Proposed Rule fails to address whether a waiver is necessary because the statutory volume requirements would severely harm the economy, even though EPA has substantial evidence that a waiver is needed to avoid such harm. EPA should consider *both* statutory grounds for granting a waiver of the statutory requirements for 2015 and 2016, and should exercise its general waiver authority on both grounds.

4. API and AFPM believe that, for future rulemakings, EPA must adhere to the statutorily-mandated due dates for RFS implementation rules, and it should acknowledge in this rulemaking that its failure to do so harms obligated parties, renewable fuel producers, and ultimately consumers. EPA has consistently missed the November 30 deadline specified in the statute for finalizing renewable fuel volumetric obligations for the following year, and in the present rule takes that failure to the next level: promulgating the 2014 volumetric obligations not in November 2013 as required by statute, and not even in 2014 when there was still a chance that obligated parties could take some action to comply, but (presumably) *in November 2015*, when the rule is almost entirely retroactive and compliance options will be limited or completely unavailable for many obligated parties. This delay undermines the intent of Congress when it originally enacted the RFS and when it subsequently amended and expanded the program.

5. AFPM and API believe that EPA's biomass-based diesel proposals for 2014, 2015 and 2016 ignore specific statutory language that prohibits the Agency from increasing the biomass-based diesel standard without *first* applying specifically enumerated statutory criteria *and* providing obligated parties 14 months' lead-time before compliance is required. We also note that EPA would be acting outside of its statutory authority if it altered the biomass-based diesel standard for 2017, unless it issued such standard prior to November 1, 2015.

In conclusion, EPA's action to waive the 2014, 2015, and 2016 RFS volume standards is appropriate and necessary. We do not support the proposed volumes of biomass based diesel, nor do we support EPA's aggressive projections of E85 consumption and cellulosic biofuel production. **To fully address the problems with the ethanol blendwall, EPA should finalize the 2014 and 2015 percentage standards proposed (except biomass based diesel), and further reduce the final 2016 standards to reflect market realities.**

We would be happy to meet with EPA to discuss our comments in more detail. If you have specific questions concerning these comments, please contact Richard Moskowitz at (202) 552-8474 or Robert Greco at (202) 682-8167.

Sincerely,



Richard Moskowitz  
American Fuel & Petrochemical Manufacturers



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American Petroleum Institute



**COMMENTS OF THE  
AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS  
AND THE AMERICAN PETROLEUM INSTITUTE**

*Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016  
and Biomass-Based Diesel Volume for 2017*

Docket ID No. EPA-HQ-OAR-2015-0111



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## I. Support for Acknowledgement of the Blendwall

EPA correctly concluded that the E10 blendwall is a binding constraint in both this proposal and the first proposal for 2014.<sup>4</sup> Although API and AFPM fully support EPA's acknowledgement of the E10 blendwall, the Proposed Rule underestimates the severity of the blendwall in several respects.

First, the Proposed Rule mistakenly underestimates and ignores consumer demand for E0. This flawed assumption overstates the ability of the market to "absorb" ethanol in gasoline (*i.e.*, overestimates the point at which the blendwall becomes binding).



Second, EPA has not acknowledged the significant vehicle compatibility issue with E15. According to the automobile manufacturers, only those vehicles whose owners' manuals specifically state that they are designed for E15 can safely use this fuel. The American Automobile Association's ("AAA's") calculations indicate that only about 10 percent of the vehicles on the road today can use E15, including flex fuel vehicles.<sup>5</sup> Moreover, tests designed by automobile manufacturing company engineers and conducted by the Coordinating Research Council ("CRC"), demonstrate that ethanol blends above 10% can damage vehicle engines and fuel systems. EPA's substitution of its judgment in place of that of the automobile manufacturers is misplaced and not entitled to deference. Vehicle warranties and guidance in owners' manuals present an objective resource that the Agency should rely on with respect to E15 compatibility. A more detailed discussion of this issue is found in section III.a, *infra*.



Third, although EPA acknowledged these E10 blendwall constraints, the Agency's proposal for 2016 "includes volumes of renewable fuel that will require either ethanol use at levels significantly beyond the level of the E10 blendwall, or significantly greater use of non-ethanol renewable fuels than has occurred to date."<sup>6</sup> EPA's proposal is aspirational and unrealistic. The Proposed Rule states that the only practical means of using more ethanol in 2016 is to use more E85, but in the Proposed Rule EPA overlooks key facts in providing an unrealistically high estimate of the potential growth of E85 in 2016. Consumer acceptance, infrastructure barriers, and logistical constraints limit the rate at which E85 use can increase to make up that difference. The timeframe necessary to install compatible refueling infrastructure, build out the vehicle fleet, and change consumer preferences is measured in years or even decades and not the mere months left until the 2016 rule takes effect. A more detailed discussion of E15 and E85 is found in sections III.a and III.b, *infra*.



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<sup>4</sup> See 78 *Federal Register* 71732 (Nov. 29, 2013).

<sup>5</sup> Green, Michael. *The Real Facts on AAA and Ethanol*; AAA Newsroom at: <http://newsroom.aaa.com/2013/12/the-real-facts-on-aaa-and-ethanol/> Accessed July 18, 2015.

<sup>6</sup> NPRM at 33102.

**a. E0 Demand Guidance**

As covered in our comments on the first 2014 proposal,<sup>7</sup> E10 is the predominant fuel in the United States, but E0 demand is significant and at least 100 times larger than the combined volumes of E85 and E15.<sup>8</sup> The Proposed Rule errs by excluding demonstrated E0 demand when calculating the capability of the gasoline market to absorb additional ethanol. The fact that limited data are available to project the future demand for E0, E15, and E85 increases uncertainty as to exactly where the blendwall lies, and this uncertainty justifies setting a conservative target that avoids the chance of inadvertently crossing the blendwall. To ensure the standards do not exceed the blendwall, we recommend that EPA use, as a prudent guide, 9.7 percent ethanol in the part of the gasoline pool that is not E85. This will allow for a base E0 demand to cover some of the uncertainty inherent in using transportation fuel forecasts, and recognize the real world incentive to blend slightly less than 10 percent to address measurement inaccuracies and avoid compliance issues given EPA's strict definition of what constitutes E15.

The Energy Information Administration ("EIA") data described in our earlier comments present a potential floor for E0 demand as shown in Figure 1, *infra*. Between 2008 and 2011, as the renewable volume requirements grew, E0 share of gasoline demand fell. In 2011, however, that share began to level out. From 2012 through 2014 it averaged 6.5 billion gallons per year, or 5 percent of gasoline demand. Its lowest annual value was about 4.5 billion gallons, or 3 percent of gasoline demand in 2012. The 3 percent E0 demand was present even though there was a strong incentive to blend ethanol to the 10-percent saturation point to build carryover RINs for future compliance when statutory renewable fuel mandates increased beyond the blendwall. We focus on this low point to derive our recommendation for the 9.7 percent guidance. That low point indicated only 97 percent of the gasoline may have been blended with ethanol, and with E10 being almost the only blend used, it implies the entire gasoline pool could only have about 9.7 percent ethanol. In 2012, the ethanol consumption data<sup>9</sup> also supported 9.7 percent ethanol share of gasoline demand.

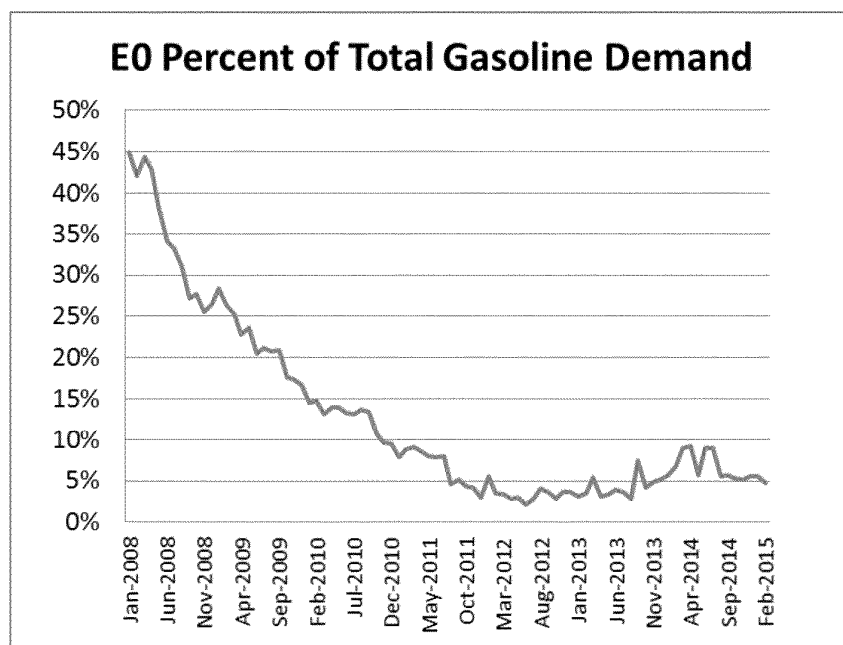
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<sup>7</sup> See 78 *Federal Register* 71732 (Nov. 29, 2013).

<sup>8</sup> E0 product supplied in 2014 based on EIA data was 9.3 billion gallons. E85 production per EIA data was 76.5 million gallons in 2014, and with less than 100 stations offering E15 (Renewable Fuels Association website), its current sales are negligible.

<sup>9</sup> Table 10.3 of the *EIA Monthly Energy Review*, [http://www.eia.gov/totalenergy/data/monthly/pdf/sec10\\_7.pdf](http://www.eia.gov/totalenergy/data/monthly/pdf/sec10_7.pdf) last accessed July 9, 2015.

Figure 1



Source: Energy Information Administration data. The E0 product supplied calculation is described in AFPM and API comments to the first 2014 NPRM, pp. 21-23 (see Docket ID: EPA-HQ-OAR-2013-0479).

EPA included a memorandum in the docket that attempted to estimate how much E0 the recreational boating industry demands.<sup>10</sup> The methodology was based on sales of gasoline additive from one supplier that serves 640 out of about 3,000 U.S. marinas. The additive is designed, among other things, to mitigate some of the E10 problems recreational boats experience. The additive is optional, making it a poor metric for determining E0 demand. EPA arbitrarily extended that limited information to all marinas without validation and assumed marina use represented all recreational boating consumption. Many recreational boaters fill up at retail stations outside of the marina. EPA's assumption that E0 refueling occurs primarily at marinas is not correct and significantly underestimates recreational boating E0 demand.

Another indication that the EPA memorandum underestimates U.S. recreational marine gasoline demand stems from the fact that the memorandum estimates that all U.S. recreational marine gasoline sold (not just E0) was 248 million gallons, which differs significantly from EPA's own non-road model estimates of almost 1.7 billion gallons consumed by recreational boaters in 2012.<sup>11</sup>

<sup>10</sup> "Estimating E0 Volume Sold in the U.S. at Marinas," memorandum from Lester Wyborny to EPA, docket EPA-HQ-OAR-2015-0111-0009.

<sup>11</sup> Transportation Energy Data Book, Edition 33, Oak Ridge National Laboratory, Table 9.6 (July 31, 2014) (derived from 194.7 trillion BTUs).

The Agency also does not address E0 demand from other sectors such as small engine use, antique cars, etc. While we do not know of other sector-specific E0 demand data, these sector needs for E0 must be acknowledged.



EIA data appear to be the only public data source for total E0 demand, which averaged 6.5 billion gallons from 2012 through 2014,<sup>12</sup> and as the national energy statistics organization, EIA provides the best information for representing E0 needs. While sector use breakdown is not available, total E0 consumption data illustrates that some significant base E0 demand exists. As indicated above, suppliers have had economic incentives to supply E10 over E0. Figure 1 shows how E0 demand declined until 2011, but has leveled out despite the incentives to use E10. This implies an apparent base E0 demand that has persisted.

EPA goes on to say that, given its small estimate of E0 needed for recreational boating, the volumes are not significant and E0 consumption is therefore ignored in the estimates for ethanol requirements.<sup>13</sup> Thus the Agency's inaccurate E0 estimate leads to an erroneous dismissal of a significant E0 fuel demand.

If EPA uses an inaccurate, low estimate for E0, it runs the risk of overestimating the amount of ethanol that can be used before running up against the blendwall. For every 100 million gallons of ethanol that EPA overestimates (a seemingly small amount relative to total ethanol), an additional 135 million gallons of E85 would be required. This is almost double the amount of E85 used in 2014 per EIA's production data from refiners, blenders, and oxygenate producers. Given the small E85 volumes consumed today, overestimates of ethanol that can be used in the E10 sectors quickly spill over as requirements for the non-ethanol fuels such as biomass-based diesel that may be used to satisfy the total renewable (D6 RIN) requirements.

#### **b. Blending Constraints**

Another factor driving the blendwall below 10 percent is a physical blending constraint: EPA's regulations on blending accuracy prevent obligated parties from blending exactly 10 percent ethanol in the gasoline. The E15 Misfueling Mitigation Regulation states "No person shall produce a fuel designated as E10 by blending ethanol and gasoline in a manner designed to produce a fuel that contains less than 9.0 or more than 10.0 volume percent ethanol."<sup>14</sup> As a result, blenders likely will target E10 at less than 10 percent ethanol to avoid potential errors introduced by equipment and laboratory accuracy as well as variability in ethanol denaturant content given that any ethanol blend found to have greater than 10.0 percent will result in a Clean Air Act violation if it is not labeled as E15. In the past, blenders would target 10% ethanol without concern for the inherent variability, knowing that the resulting blend should be below 10.49% where rounding convention would result in that being considered a 10% blend under EPA regulations.



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<sup>12</sup> Using EIA data to estimate E0 product supplied as described in AFPM/API's comments to the November 2013 proposal, E0 for the three years 2012, 2013, and 2014 was 4.5, 5.7, and 9.3 billion gallons respectively, averaging 6.5 billion gallons over that time period.

<sup>13</sup> NPRM at 33126.

<sup>14</sup> 40 CFR § 80.1504.

### c. Uncertainty and Risk

The process for setting RFS requirements has inherent uncertainties, and as the mandates increase, the economic risks associated with those uncertainties increase. Uncertainties include the program's reliance on transportation demand and biofuel production forecasts, as well as assumptions about evolution of new technologies. The RFS has some flexibility and buffers built in, but when operating close to the blendwall, that flexibility is limited. In the short term, there is a general inability to quickly increase use of new biofuels due to factors like consumer preferences, lack of drop-in biofuels, and needed infrastructure changes. Regardless of incentives, these factors limit response to increasing targets. Setting standards too aggressively increases the potential for coming up against the constraints of the blendwall and experiencing the supply dislocations and situations described in Section III.

### d. Approach for Establishing Ethanol Requirements

The correct methodology for establishing forward-looking RFS volumes begins with an accurate estimate from EIA on U.S. gasoline and diesel fuel consumption. The statute requires EIA to provide this information no later than October 30 of the year preceding the year for which the standard applies. Using the EIA information, EPA should calculate 9.7 percent of the EIA-projected gasoline consumption as a target for ethanol use in E10 volumes. The 9.7 percent value reduces the risk of overestimating the market's ability to "absorb" the targeted ethanol.

The approach we recommend would require EPA to provide methodology for estimating E85 separately from ethanol in the rest of gasoline consumption. The amount of E85 assumed in the calculation would be explicit and based on demonstrated and not aspirational targets. The chart below shows EPA overestimated E85 demand for years 2013 and 2014.



E85 Demand (billion gallons per year)		
EPA Projection		EIA Actual <sup>15</sup>
2014 NPRM Nov. 2013	0.1 - 0.3	0.0765
2013 Final Rule	0.2 - 2.1	0.0646


EPA's current proposal concerning E85 is similarly aspirational and unlikely to reflect actual E85 consumption.


<sup>15</sup> Calculated from the following EIA data: U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than Ed55 of 1,026 kbbl in 2013 and 1074 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A) plus Renewable Fuels & Oxygenate Plant Net Production of 513 kbbl in 2013 and 748 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A). Accessed July 17, 2015.

## II. 2014-2016 Proposed RFS Standards

Obligated parties require regulatory certainty for their compliance plans. EPA is inexcusably late in publishing percentage RFS standards for 2014 and 2015. With the exception of biomass-based diesel, EPA must finalize the 2014 and 2015 RFS percentage standards as proposed and finalize the 2016 standards in accordance with the recommendations set forth below.<sup>16</sup>

### a. Carryover RINs

Carryover RINs are critical for compliance flexibility, market liquidity, unanticipated supply limitations, and program buffer functions. Obligated parties face growing uncertainties because of ever-increasing renewable fuel mandates. Historically, the availability of carryover RINs has provided an important incentive for obligated parties to exceed the annual volume requirement by using renewable fuels above the statutory requirements where market conditions allow this to occur.<sup>17</sup> But obligated parties are now constrained by the blendwall and other factors affecting the ability to use renewable fuels in transportation fuel. These factors seriously impact the ability of obligated parties to obtain sufficient amounts of carryover RINs. Ideally, obligated parties should be able to acquire and use carryover RINs for compliance when there are disruptions in the supply of renewable fuel (e.g., due to drought) or distribution issues (e.g., disruptions of shipments by rail because of snowstorms). In these situations, carryover RINs fulfill a vital role in the implementation of the RFS; they help ensure that the domestic fuel market can be served and that obligated parties are not placed in jeopardy, including the possibility of CAA violations should RINs needed for compliance become unavailable. 

We agree with EPA that carryover RINs should not be considered in setting the annual RFS standards.<sup>18</sup> EPA proposes to allow the program to function as it was designed so that obligated parties have at least some limited flexibility to manage their compliance using banked RINs. It is imperative that obligated parties have this necessary compliance flexibility without worrying that EPA may set annual RFS standards and increase the regulatory mandates by removing this safety net based on depleting the volume of carryover RINs. 

### b. EPA Does Not Have the Authority to Increase the Biomass-Based Diesel Requirements for 2014, 2015 or 2016

CAA section 211(o)(2)(B) specifies the volumes for the categories of total renewable fuel, advanced biofuel, and cellulosic biofuel that must be consumed through calendar year 2022. For biomass-based diesel, however, section 211(o)(2)(B)(i) does not prescribe specific statutory volumes after 2012. Instead, CAA section 211(o)(2)(B)(ii) sets a 1 billion gallon floor and requires EPA to establish the biomass-based diesel volume requirements based on an analysis of


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<sup>16</sup> NPRM at 33100.

<sup>17</sup> As noted throughout these comments, over-compliance with RFS volumes has become impossible in the aggregate due to the E10 blendwall and other constraints facing cellulosic biofuel, advanced biofuel and biomass-based diesel.

<sup>18</sup> NPRM at 33130.



six statutory criteria (*i.e.*, environmental impact, energy security, expected production, impact on infrastructure,  consumers, and certain other factors such as food prices and rural development). CAA section 211(o)(2)(B)(ii) also expressly requires EPA to provide 14-months lead time when establishing such requirements. Specifically, under this provision:

The Administrator shall promulgate rules establishing the applicable volumes under this clause no later than 14 months before the first year for which such applicable volume will apply.<sup>19</sup>

Thus, EPA was required to have determined the 2014 biomass-based diesel applicable volume by October 31, 2012, the 2015 volume by October 31, 2013, and the 2016 volume by October 31, 2014. EPA has not met these deadlines for 2014, 2015, or 2016 biomass-based diesel requirements. Compliance with the statutory lead time requirements for these years now is impossible. EPA also has not undertaken an adequate analysis of the six factors specified in CAA section 211(o)(2)(B)(ii) for 2014, 2015, 2016 or 2017. Consideration of these factors is a statutory requirement precedent to revising the applicable volume of biomass-based diesel for years after 2012. EPA should, for example consider such things as impacts on water use, fertilizer run-off into the Gulf of Mexico, food prices, as well as energy security (in light of the reliance upon imported fuel). The Agency should also consider land use impacts and whether it is appropriate to continue to exempt domestically-produced crop-based biofuels like soy-based biodiesel (and corn-based ethanol) from EISA's land use restrictions especially given recent information indicating that EPA's assumptions underlying that exemption were incorrect.<sup>20</sup>

Noncompliance with the statutory schedule and EPA's lack of examination regarding the six statutory factors raise the issue of what level of biomass-based diesel can be required in 2014, 2015 and 2016. In this regard, section 211(o)(2)(B)(ii) is clear: EPA cannot alter its most recent determination for 2013 of 1.28 billion gallons, because this is the highest volume for which obligated parties have had the requisite advance notice and an opportunity to comment on EPA's application of the six statutory criteria.<sup>21</sup> Indeed, the soonest that EPA can go beyond the 1.28 billion gallons would be 2017, providing it complies with the statute's 14-month lead time requirement and issues a final rule prior to November 1, 2015. Any higher applicable volume for biomass-based diesel (or percentage standard based on this volume) for any year covered by the Proposed Rule would be contrary to the plain language of the statute.

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<sup>19</sup> 42 U.S.C. § 7545(o)(2)(B)(ii).

<sup>20</sup> EISA requires that renewable fuels be produced from renewable biomass. The law further restricts the definition for crop-based renewable fuels to crops from land that was in agricultural use as of the date of enactment of EISA. However, in the original RFS2 rulemaking, EPA effectively exempted domestic crop-based biofuels from this requirement based on the assumption that there would be no new crop-land created. Recent reports including a University of Wisconsin study (<http://m.iopscience.iop.org/1748-9326/10/4/044003/article>) and an Associated Press investigation (<http://bigstory.ap.org/article/secret-dirty-cost-obamas-green-power-push-1>) indicate this was an invalid assumption.

<sup>21</sup> We would note that even using the 2013 determination would not explicitly satisfy the requirement of CAA section 211(o)(2)(A)(ii) that the Administrator determine applicable volumes for "calendar years after the calendar years specified in the tables" since EPA's determination was with respect to the year 2013.

In the original 2014 RFS proposal, EPA correctly proposed to establish the annual biomass-based diesel volume at no more than 1.28 billion gallons for 2014 and 2015 because, as the Agency acknowledged, “the statute requires that we finalize these biomass-based diesel volume requirements *no later than 14 months* before the first year for which that volume requirement will apply.”<sup>22</sup> In the current RFS rulemaking, EPA explains that it is proposing an applicable biomass-based diesel volume for 2017 “in order to satisfy a statutory requirement that when EPA sets the applicable volumes in the absence of a statutory volume target, that we do so no later than 14 months before the first year for which such applicable volume will apply.”<sup>23</sup> Finally, in a presentation to the D.C. Bar on July 14, 2015, EPA affirmed the Agency understands this statutory requirement. EPA’s presentation stated that “EPA must determine the applicable volume of BBD 14 months prior to the year in which the volume will be required” and explained that the current RFS rulemaking “also includes the 2017 volume for BBD in this package since it must be set 14 months ahead of 2017 (*i.e.*, by November 1, 2015).”<sup>24</sup>

In the re-proposal, however, EPA willfully ignores both the plain language of the law and the Agency’s own understanding of that statutory text by proposing to increase the biomass-based diesel standards for 2014-2016. As explained below, obligated parties require the certainty of having final RFS standards prior to the start of the compliance year – as the Clean Air Act clearly requires in order to make operational, logistics, and investment decisions that are necessary to comply with the final standards. Setting RFS standards retroactively or without proper lead time is directly converse to the statutory scheme and objectives of the program.

To justify ignoring the clear statutory requirements, EPA improperly relies on an inapplicable case from the U.S. Court of Appeals for the District of Columbia Circuit that previously considered whether EPA could *issue* RFS rules after the statutory deadline – not whether EPA has the authority to disregard clear statutory requirements to *increase* biofuel requirements.<sup>25</sup> While the court held that EPA had not forfeited its authority to issue biofuel standards at the statutorily-required levels merely because it missed the rulemaking deadline, that case is easily distinguished from the facts presently at issue.

First, *NPRA v. EPA* involved interpretation of a different statutory provision, CAA 211(o)(2)(B)(i), which sets forth specific quantities of biomass-based diesel to be blended in 2009 and 2010. Today, however, EPA must apply the authority found at 211(o)(2)(B)(ii) to promulgate biomass-based diesel standards, and it must analyze the six factors specified in the statute. **The fact that the statute set forth specific volumetric requirements in 2009 and 2010 in the NPRA case is significant, because it enabled the court to reason that obligated parties were put on notice by the statute itself as to what their biomass-based diesel blending requirements would be prior to the promulgation of a final rule. There is no such notice here. Instead, the statute establishes a 1 billion gallon floor; in 2013, EPA applied the six statutory criteria to set the applicable volume for biomass-based diesel above that floor, at 1.28 billion gallons. Thus,**

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<sup>22</sup> “2014 Standards for the Renewable Fuel Standard Program,” 78 *Federal Register* 71732, 71737 (Nov. 29, 2013) emphasis added.

<sup>23</sup> 80 *Federal Register* at 33132.

<sup>24</sup> “U.S. Renewable Fuels Program Overview and What’s Next,” U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *reprinted* at Appendix C.

<sup>25</sup> See *National Petrochemical & Refiners Association v. EPA*, 630 F.3d 145 (2010).

obligated parties have had no other context in which to determine, consistent with the statute, what the applicable volume will be in 2014, 2015 and 2016.

Second, *NPRA v. EPA* involved the implementation of a new program - the transition from RFS1 to RFS2 following the passage of EISA. Among other changes, EISA included a brand new mandate for biomass-based diesel that had not existed under RFS1. In this context, if the court vacated EPA's issuance of the biomass-based diesel requirements after the statutory deadline, the court believed that the statutory purpose of ensuring the U.S. consumption of the enumerated quantities of biomass-based diesel would have been thwarted.

It seems highly unlikely that in 2007 Congress intended in enacting the EISA that EPA's failure timely to issue the revised regulations or the 2010 standard would lead to the drastic and 'somewhat incongruous result,' that petitioners urge, namely precluding EPA from ensuring that both the 2009 and 2010 applicable volumes of biomass-based diesel are eventually sold or introduced into commerce.<sup>26</sup>

That same situation is not present today, as the Agency's original proposal to maintain the 1.28 billion gallon mandate in 2014 and 2015 continues to exceed the statutorily prescribed minimum of 1.0 billion gallons.

Third, in *NPRA v. EPA* the D.C. Circuit indicated that the deadlines provided in the EISA were "likely unrealistic." *Id.* But even if that was the case in 2010, that cannot possibly be the case now. Over seven years after the enactment of EISA, EPA cannot argue that it did not have adequate time to determine biomass-based diesel standards for 2014, 2015 and 2016.

Finally, the court found in *NPRA* that Congress had anticipated the possibility of some retroactive impacts in the first year of the expanded fuel program. This is not the case in 2014, and a decision to increase the biomass-based diesel mandate beyond the amount previously promulgated without applying the statutory criteria and providing obligated parties the 14-month lead time required by statute would completely eviscerate section 211(o)(2)(B)(ii). EPA does not have the authority to rewrite the unambiguous statutory language in this manner.

The provision of the statute authorizing EPA to set biomass-based diesel requirements after 2012 is clear on its face. EPA may increase the biomass-based diesel standards *only* by correctly applying the six enumerated criteria *and* by providing obligated parties 14-months lead time. Not having done either, EPA is, therefore, without authority to increase the biomass-based diesel mandate beyond 1.28 billion gallons in the context of this rulemaking.

We note that setting the biomass-based diesel RFS at 1.28 billion gallons for 2014-2016 does not restrict additional biomass-based diesel from being sold in the market. Biomass-based diesel producers are able to sell as much of their product as consumers demand. The nesting of renewable fuel requirements in the EISA mandate allows discretionary volumes of biomass-based diesel to be consumed, if biomass-based diesel is cost-competitive with alternative

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<sup>26</sup> *NPRA v. EPA* at 156.

advanced biofuels and renewable biofuels. Setting a higher level for the biomass-based diesel standard within the advanced biofuels mandate achieves no incremental benefit, while limiting compliance flexibility and potentially increasing compliance costs. As incremental volumes of biomass-based diesel can be used to demonstrate compliance in the advanced biofuel category, EPA cannot and should not go beyond 1.28 billion gallons in 2014, 2015 or 2016.

We note also that it is inappropriate for EPA to conclude that there is no harm to obligated parties because the number of RINs from biodiesel consumption in 2014-2016 would exceed 1.28 billion gallons. The RFS puts obligations on specific obligated parties, not on the industry as a whole. Thus, although there was apparently excess biodiesel consumed in 2014 when compared with the 1.28 billion gallon proposed standard, this does not mean that all obligated parties have sufficient biomass-based diesel RINs to meet the increased standards. EPA's disregard for the plain language of the law, upon which such obligated parties may have justifiably relied, harms those obligated parties.

### **c. 2014 Re-Proposal of a Retroactive RFS**

2014 presents an unusual circumstance for obligated parties and EPA. EPA's historical delays in issuing RFS implementation rules have now risen to the point that the 2014 rule is retroactive. No additional renewable fuel can be produced or blended for 2014 compliance, no additional 2014 RINs can be made available, and most importantly obligated parties are constrained in their ability to adjust their compliance strategies to account for any change in expectations. EPA's historic delay in issuing the 2014 RFS implementation rule leaves the Agency with few good regulatory options for 2014, none of which are contemplated by the CAA. As such, with the exception for biomass-based diesel, which EPA must maintain at 1.28 billion gallons, we reluctantly support EPA's re-proposed percentage standards for 2014. We fully support EPA's necessary exercise of its cellulosic and general waiver authority in the context of the 2014 RFS rulemaking to reflect the supply of RINs generated and separated in 2014 that are available for compliance. We further support EPA's rationale for preserving the carryover RINs, as discussed in Section II.a, *supra*.

One important exception to our support of EPA's re-proposed 2014 RFS volumes relates to the Agency's proposed retroactive increase of the biomass-based diesel volume. As described in Section II.b, EPA is without authority to change the biomass-based diesel volume retroactively for 2014, and its proposal to do so ignores clear statutory language. EPA has no choice but to finalize the 2014 biomass-based diesel volumes at *1.28 billion gallons*.


With respect to the 2014 cellulosic volumes that appear in EMTS, we note that only 800,000 non-biogas cellulosic biofuel gallons were produced in 2014. EPA's higher number of 33 million gallons is not a success story for these new fuels, but rather a redefinition of the cellulosic category to include landfill gas that is being (and has been) used for transportation

fuel.<sup>27</sup> This moving of the goalposts midway through 2014 misleads the general public and decision makers as to the actual viability of this alternative fuel that formed such an important part of the RFS that Congress envisioned. We discuss EPA’s cellulosic methodology in Section III.c, *supra*.

The following chart summarizes AFPM and API positions on the re-proposed 2014 RFS percentage standards:

2014	EPA’s proposal	API / AFPM position
Cellulosic biofuel	0.019%	0.019%
Biomass-based diesel	1.42%	1.11%
Advanced biofuel	1.52%	1.52%
Total renewable fuels	9.02%	9.02%

The discrepancy between the NPRM and AFPM and API’s position is based upon the use of a biomass-based diesel volume of 1.28 billion gallons, as discussed in Section II.b, *supra*. Since this is a reduction from EPA’s proposal of 1.63 billion gallons, the percentage for this category should be reduced from 1.42% to 1.11%, as noted in the chart.

API and AFPM have additional concerns with EPA’s statements regarding possible future adjustments to these proposed standards from exports. This exacerbates the uncertainty EPA has inflicted on the market due to its unreasonable rulemaking delay. Indeed, due to the delayed compliance date for 2013 and 2014, it is impossible to know how many RINs will be retired to account for exported renewable fuel at the time the Agency finalizes this rule. **The Agency must address this uncertainty by finalizing the 2014 percentage standards as indicated on table above and without additional adjustments.**

While EPA has repeatedly been late in issuing RFS rules, 2014 represents the first year that EPA has proposed to exercise its general waiver authority. Thus, obligated parties were without the statutory guidance that EISA provided in prior years, as it became clear that the 2014 statutorily-prescribed volumes were unachievable. On the most simplistic level, EPA may believe that its decision to embrace “actual use” ensures compliance with the 2014 standards; however, the adjustment of renewable fuel volumes after the completion of the year is problematic. In this regard, it is important to distinguish between macro compliance and micro compliance. The RFS places compliance obligations on individual obligated parties, not the industry as a whole. Given that the 2014 compliance year is complete, there is no way for an obligated party to adjust their RFS compliance strategy and this ex post facto change directly harms a subset of obligated parties. Indirectly, but not less harmful, the post-compliance period change to EMTS actuals also impacts the 2015 RFS compliance strategies of obligated parties by reducing the number of carryover RINs they may have accumulated for future compliance.

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<sup>27</sup> Note prior to August 2014, biogas used in transportation fuel generated an advanced biofuel (D5) RIN. Subsequently, EPA issued a rule to allow this fuel to qualify as a D3 cellulosic biofuel.

#### d. 2015 Proposed RFS

For 2015, EPA again proposes to base the volume standard on the number of RINs expected to be supplied to the market and available for compliance at the end of the year. The proposed volumes are based on a combination of actual RIN data for part of the year and a projection for the remainder of the year.

As the rule is not expected to be finalized until November 30, 2015, obligated parties will not be able to significantly change their compliance strategies for 2015. As such, **EPA should finalize the same percentage standards that were published in the Proposed Rule.** This is an equitable method for doing so, since it will give obligated parties a chance to comply. The proposal represents the best information available for obligated parties to use when developing compliance strategies for 2015. It would not be fair for EPA to increase the compliance percentages when finalizing the rule at the end of the year.



Therefore, we recommend that EPA maintain the following compliance percentages as proposed:

2015	EPA's proposal	AFPM / API position
Cellulosic biofuel	0.059%	0.059%
Biomass-based diesel	1.41%	1.06%
Advanced biofuel	1.61%	1.61%
Total renewable fuels	9.04%	9.04%

The discrepancy between the NPRM and API and AFPM's position is based upon the use of a biomass-based diesel volume of 1.28 billion gallons, as discussed in Section II.b, *supra*. Since this is a reduction from EPA's proposal of 1.70 billion gallons, the percentage for this category should be reduced from 1.41% to 1.06%.

#### e. 2016 Proposed RFS

##### i. Prospective Rule Requires Different Methodology

A methodology different from that used for 2014 and 2015 is needed to establish the 2016 requirements as 2016 is a future year. A prospective approach must balance the uncertainties of the future with the reality of the blendwall and with the guidance provided by court holdings to date. Many of EPA's arguments for the 2016 proposal focus on potential market responses that are simply not realistic and afford no basis for standard-setting.

EPA's assumptions and rationale for setting the 2016 Total Renewable Fuel Volume Obligation are flawed and ignore the limited time for any industry/market response between the publication of the Final Rule and January 1, 2016 when the standard takes effect. EPA acknowledges in its

Proposed Rule that it should “determine the maximum volumes of renewable fuel that can be expected to be achieved in light of supply constraints.”<sup>28</sup> It further acknowledges that multiple “constraints limit the supply of ethanol to vehicles in the 2015-2016 time period.”<sup>29</sup> Yet EPA then proceeds to set 2016 standards that exceed these constraints by making inaccurate assumptions of how regulated parties, stakeholders and the market will respond. EPA should resolve this internal inconsistency by ensuring, based on reliable data, that the volume requirements in the final rule are reasonably achievable.

In the preamble, EPA lists five options that EPA believes provides stakeholders “the ability to overcome market barriers to expanded use of renewable fuels, making the standards we are proposing today attainable.”<sup>30</sup>

- (1) “Working with vehicle manufacturers to increase the number of FFV’s in the fleet”
- (2) “Increasing the number of retail stations offering E15 and E85 through direct installation of new equipment or providing grants to retail owners, and locating those stations offering E15/E85 closest to higher populations of vehicles that can use those fuels”
- (3) “Developing contractual mechanisms to ensure favorable pricing of E15 and E85 at retail compared to E10 to boost sales volumes.”
- (4) “Increased production and/or imports of non-ethanol renewable fuels (e.g. greater production of drop-in biofuels)”
- (5) “Expand co-production of non-ethanol renewable fuels with petroleum at new and existing facilities”

As a practical matter, these options cannot be implemented in a short period of time and will have a negligible impact on the ability to meet the proposed 2016 renewable fuel standards. It is doubtful they will have any significant impact in the next several years.

Option 1, working with automobile manufacturers to increase the number of FFVs in the fleet is not a practical option for increasing the volume of renewable fuels consumed in 2016. Making changes in the vehicle fleet occurs over a period of years and it is too late to significantly affect the number of FFVs to be sold in 2016. Also, automobile manufacturers are moving away from the production of FFVs due to the compliance requirements they have to meet for the vehicle fuel efficiency standards.



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<sup>28</sup> NPRM at 33105.

<sup>29</sup> *Id.* at 33114

<sup>30</sup> NPRM at 33129.

Option 2, increasing the number of retail stations offering E85 and E15, and locating stations near the higher populations of FFVs is similarly unrealistic. While there may be some increase in E85 investment due to the USDA grant program, the time required for permitting, constructing and operating new or upgraded retail facilities will delay the benefit of any such investments well beyond the 2016 window. Also, it is unclear how to influence where retail investments occur, since these decisions would be made by individual businesses who are evaluating market opportunities in their particular locations.



While increasing the number of FFVs and the number of retail outlets would theoretically create market opportunities for selling E85 and E15, consumer behavior still needs to change to achieve the proposed volumes for 2016. The third option EPA suggests relies on using contractual mechanisms to ensure favorable pricing of E15 and E85 relative to E10. This option is unrealistic and would have little, if any, impact on the utilization of E15 and E85. Simply put, prices for different fuels are established in the market by consumer demand balanced against the cost of supplying the fuels. Participants in the RFS cannot ensure the pricing of any fuel relative to another. To attempt to establish any such favorable pricing in the market may put participants at risk of violating anti-trust laws. See comments on E15 and E85 at sections III.a. and III.b., *infra*. Thus, EPA's assertion that "contractual mechanisms" may ensure favorable pricing of E85 and boost E85 sales is entirely conjectural and unsupported in the Proposed Rule and supporting materials in the docket.



Option 4, regarding increased production and or imports of non-ethanol renewable fuels, also will have a negligible impact for 2016 due to the time required to plan for and execute such changes. In addition, EPA should not promote non-domestic biofuels and set standards that amount to a de-facto mandate for imports. Promoting foreign production of biofuels, or providing a ready market for foreign biofuels, was not the intent of EPA Act and EISA. Some of these options including palm based bio/renewable diesel run counter to the greenhouse gas reduction standards of the RFS program.



EPA's final option to expand co-production of renewable fuels with petroleum also is impractical in the near term. Certainly, construction of new facilities is not a viable option for increasing renewable fuel volumes in 2016. Bringing new facilities on-line for production requires a multi-year timeline and cannot be considered to provide any incremental volume for 2016. Even co-processing at existing facilities is not a simple option. If feedstocks are available, modifications must be made at a petroleum refinery to safely handle and process the new feeds. Most renewable feedstocks for non-ethanol renewable fuels require pre-treatment, which requires a capital investment and time to design permit and construct.



By failing to acknowledge these structural barriers to increasing the volume of E15, E85, and non-ethanol renewable fuels in the marketplace, EPA's proposed volume requirements for 2016 exceed what "can be expected to be achieved in light of supply constraints."<sup>31</sup>

In adopting overly aggressive renewable fuel requirements for 2016, EPA rationalizes that the

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<sup>31</sup> NPRM at 33105.



RFS provides obligated parties with certain flexibilities that can be used to overcome the acknowledged supply constraints:

Finally, the RFS program contains two other provisions that provide additional flexibility to obligated parties in the event that they choose not to invest in increasing the supply of renewable fuels. The first is the option to carry a deficit into 2017. This option would provide the industry additional time to increase supply. The second available flexibility is carryover RINs discussed in more detail in Section II.F [in the NPRM].<sup>32</sup>

Each of these are problematic. First, obligated parties have limited options to invest in increasing the supply of renewable fuels, especially in this short timeframe; this point is addressed in detail in Section III. If EPA believes that running a deficit in 2016 is a likely outcome of the standard they are setting, then EPA is setting the standard too high.

Second, EPA has correctly concluded that the existence of carryover RINs are necessary for the smooth operation of the RFS program and should not be a factor in setting the standards.

Finally, if EPA wants maximum renewable fuels blended, it should move the point of obligation to align with the point where compliance is more likely achieved (*i.e.*, the point of blending), so every blender has increased incentives to blend. EPA indicates that the 2016 proposal would require the “market” to respond, including by expanding infrastructure for distributing and consuming renewable fuels. This hypothetical market response is not a reasonable basis upon which to set the standards, especially for 2016. There will only be one month between EPA’s deadline to issue the Final Rule for 2016 and when the rule takes effect, and only seven months from the release of the Proposed Rule. This is obviously insufficient time for the planning, approval, design, permitting, construction and start-up of any large capital projects or a sufficient number of infrastructure projects to have a significant impact on biofuels production and blending at the rack and pump installation at the retail level. Further, the structure of the RFS regulations with the point of regulation being the refiner or importer and not the owner of fuel at the rack before it is put into trucks for delivery to retail and wholesale purchasers/consumers will hinder a market response to high RIN prices, which EPA suggests will make the 2016 targets feasible. Both the fuel blender and the fuel retailer determine whether increased RIN prices are passed on to consumers in the form of discounts, in the hope it will spur additional sales of fuel containing higher percentages of renewable fuels. If the fuel blender were an obligated party, they would have both a regulatory compliance and economic incentive to take this action. If EPA wants the “market” to help make the RFS more achievable, EPA should propose a rule to move the point of regulation to the rack. We note, however, that it would be a major change to the RFS program and would require significant lead time; it is clearly not feasible now or before the rulemaking for 2017 RFS Standards.

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<sup>32</sup> NPRM at 33129 (*Note* section reference is to the preamble of the Proposed Rule).

## ii. The NPRM Presents Unrealistic Alternative Volume Scenarios for Compliance

EPA displays 16 fuel combination scenarios in Table II.D.2-2 that would purportedly satisfy the 2016 proposed requirements. However, EPA acknowledges that when it simulated future market behavior for those 16 combinations, only “some of the scenarios” showed that its proposed volume requirements were achievable.<sup>33</sup> Accordingly, EPA appears to implicitly recognize that the proposed volume requirements for 2016 are *not* achievable in many of its simulations. Thus, under EPA’s own analysis, the proposed requirements for 2016 cannot “be expected to be achieved in light of supply constraints.”<sup>34</sup>



The increases proposed for 2016 are unprecedented. Furthermore, all of the scenarios EPA presents involve volumes well above demonstrated production levels. For example, EPA’s proposed flex-fuel scenarios begin at 100 million gallons, which is 30 percent higher than the 76.5 million gallons consumed in 2014.<sup>35</sup> The flex-fuel scenarios then proceed to 200 million gallons – more than double 2014 levels – and up to as many as 600 million gallons. According to EPA (Table II.A.5-1, page 33115 of the preamble), the maximum biomass-based diesel consumed historically was 1.63 billion gallons which occurred in 2014. Only two of the biomass-based diesel scenarios are less than 1,900 million gallons. That is almost 300 million gallons more consumption than anything previously achieved. Biomass-based diesel distribution and use limitations will likely prevent quick increases to levels shown in EPA’s scenarios. The large biodiesel volumes also illustrate how, due to the E10 blendwall, 2016 becomes an indirect biomass-based diesel mandate. In summary, EPA’s proposed volume requirements for 2016 exceed what can reasonably be expected to be achieved in light of supply constraints.

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<sup>33</sup> NPRM at 33126 .

<sup>34</sup> *Id.* at 33105.

<sup>35</sup> Calculated from the following EIA data: U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than Ed55 of 1,026 kbbl in 2013 and 1074 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A)[http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A) plus Renewable Fuels & Oxygenate Plant Net Production of 513 kbbl in 2013 and 748 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A). Accessed July 17, 2015. ([http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A)). Accessed July 17, 2015.

Table 1 NPRM Table II.D.2-2 Volume Scenarios; *Inserted Highlighting* Illustrates Unprecedented Volume Requirements (Million Gallons)

E85*	Total Ethanol	Biomass-based diesel (D4)*	Sugarcane Ethanol (D5)	Other non-ethanol advanced (D5)	Conventional Biodiesel (D6)
100	13,760	1,997	102	100	250
100	13,760	2,030	102	50	250
100	13,760	2,063	102	-	250
100	13,760	2,131	-	-	182
200	13,826	1,952	168	100	250
200	13,826	1,986	168	50	250
200	13,826	2,019	168	-	250
200	13,826	2,065	-	100	138
400	13,959	1,898	301	50	250
400	13,959	1,989	113	100	125
400	13,959	2,056	113	-	125
400	13,959	2,098	-	50	50
600	14,091	1,800	433	64	250
600	14,091	1,901	245	100	125
600	14,091	2,026	58	100	-
600	14,091	2,093	58	-	-

\* Shaded cells show volumes exceeding historical maximums:

Maximum flex-fuel production (assumed consumption: 76.5 Million gallons in 2014 based on EIA data<sup>36</sup>)

Maximum biomass-based diesel and renewable biodiesel production: 1.63 billion gallons in 2014 per EPA Table II.A.5-1 in the preamble.

<sup>36</sup> Calculated from the following EIA data: U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than Ed55 of 1,026 kbbl in 2013 and 1074 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A) plus Renewable Fuels & Oxygenate Plant Net Production of 513 kbbl in 2013 and 748 kbbl in 2014 found at: ([http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A)). Accessed July 17, 2015.

### iii. API and AFPM Recommended 2016 Requirement

EPA's proposed renewable fuel volume requirements for 2016 are not supportable. The chart below compares EPA's proposal with our recommendations (billion gallons):

	EPA's 2016 proposal	AFPM / API position
Cellulosic biofuel	0.206	Latest 3 months annualized
Biomass-based diesel	1.80*	1.28*
Advanced biofuel	3.40	2.90
Total renewable fuels	17.40	16.30

\*Physical gallons, not ethanol-equivalent gallons

The rationale for these values is discussed below.

### iv. Advanced Biofuel Requirement

EPA states in the proposal that renewable fuel growth in 2016 should emphasize advanced biofuels. It proposes a volume standard of 3.4 billion gallons, which is a 500 million gallon increase over the proposed volume of 2.9 billion gallons for 2015. It should be noted that this target for 2015 is already 8.2% higher than 2014, a very aggressive annual growth rate. Using EMTS data up to and including May 2015, the 2015 annualized volume for advanced biofuels is approximately 2.6 billion gallons ethanol equivalent RINs. It is notable that for 2016 EPA proposes an even more aggressive annual increase of 17% over 2015 and an advanced target of 3.4 billion gallons.

EPA presents several potential scenarios totaling 3.4 billion gallons in the Proposed Rule, but as discussed above, these scenarios use unprecedented volume assumptions. These volumes cannot be expected to be achieved in light of supply constraints for 2016, and EPA should finalize a lower advanced biofuel volume standard for 2016.

In the Proposed Rule, EPA applied most, but not all, of its exercise of the cellulosic waiver to the advanced biofuel and total renewable fuel RVOs. **Due to the nested nature of the standards, to lower the overall cost of the program to consumers and to make the regulations more achievable, EPA should always extend the full volume of any cellulosic waiver to both the advanced biofuel and the total renewable fuel RVO requirements.** For cellulosic biofuel, we again recommend using the three most recent months of production data to forecast future annual production rates.<sup>37</sup> 100 million gallons of D3 RINs can likely be generated in 2016, the same rate EPA proposed for 2015. Using the most recent three months of production data allows EPA to make an accurate, neutral projection and avoid overly optimistic forecasts. A discussion of our



<sup>37</sup> Where EPA complied with statutory deadlines, these three months would presumably occur mid-year in the year prior to the year in which the obligation would be imposed, i.e., in order to accommodate notice and comment rulemaking to establish RFS standards prior to November 30<sup>th</sup>

concerns with the cellulosic methodologies EPA used to support the Proposed Rule is discussed in Section III.c, *infra*.

Sugar cane ethanol use has decreased as a result of the E10 blendwall. Based on 2014 and 2015 EMTS data, 74 million gallons of D5 RINs in 2016 is a reasonable projection; however, we do not support setting the advanced biofuel mandate at a level that incentivizes biofuel imports. One of Congress's primary goals in enacting the renewable fuel program was to decrease the nation's dependence on foreign sources of energy—thus the title “Energy Independence and Security Act.” Relying on imports to satisfy the advanced biofuel requirement runs contrary to the intent of Congress. *See National Petrochemical & Refiners Ass’n v. EPA*, 630 F.3d 145, 156 (D.C. Cir. 2010) (EISA should be interpreted in view of its purpose); *HCA Health Servs. of Oklahoma, Inc. v. Shalala*, 27 F.3d 614, 620 (D.C. Cir. 1994) (statute should be interpreted in light of congressional purpose). EPA should not, therefore, interpret the RFS in a manner to encourage the import of renewable fuels, especially when such actions exacerbate the E10 blendwall problem.



Our recommended forecast of advanced biofuel volumes available in 2016 is summarized in the table below. The advanced biofuel volume standard for 2016 should be set at 2.9 billion gallons.

#### 2016 Advanced Biofuel Volume Standard - API / AFPM Recommendations

	Billion RINs
Biomass-Based Diesel D4 RINs	2.7
Cellulosic Biofuel D3 RINs	Last 3 months annualized (estimated at 0.1 billion)
Sugar Cane Ethanol D5 RINs	0.074
Total Advanced Biofuel RINs	2.874 rounded to 2.9

#### v. Total Renewable Biofuel Requirement

EPA should set the 2016 Total Renewable Fuel standard at 16.30 billion gallons.<sup>38</sup> This volume is based on ethanol usage at 9.7% for E10 (13.404)<sup>39</sup> plus 2.9 billion gallons of advanced biofuel ethanol equivalent RINs which includes 0.074 billion gallons of sugar cane ethanol as a proxy to 100 million gallons of E85 use.<sup>40</sup> Higher levels for 2016 cannot be expected to be achieved in light of supply constraints for the reasons given above and in the other sections of our comments.



EPA's assessment of RIN market dynamics by Dallas Burkholder describes how RINs act as an incentive to reduce prices for fuels with larger amounts of renewables and a disincentive for

<sup>38</sup> 13.404 ethanol in E10 + 2.9 advanced = 16.304

<sup>39</sup> EIA's May 2015 STEO projection for gasoline in 2016 = 8.99 million b/d, or 138.19 billion gallons. 0.097 \* 138.19 = 13.404.

<sup>40</sup> 100 million gallons of E85 = 74 million gallons of ethanol.

fuels with lower renewable content.<sup>41</sup> But as another paper by James Stock points out quite clearly, RINs are an ineffective tool for encouraging investment and have shown no ability to create the incentives needed to move E85 volumes enough to solve the blendwall issue in 2016.<sup>42</sup> Any RIN discount a blender passes to retailers varies from market to market depending on competitive factors. The retailer will then make a rational decision on changes in their retail price.



EPA indicates that the 2016 proposal would require the “market” to respond, including by expanding infrastructure for distributing and consuming renewable fuels. EPA’s projections are unrealistic for several reasons.

There will only be one month between EPA’s deadline to issue the Final Rule for 2016 and the end of 2015, and only seven months from the release of the Proposed Rule to the end of the year. Even if obligated parties could rely on the Proposed Rule (which is problematic for many reasons, and perhaps more so in this rulemaking given the previous proposal and withdrawal of the 2014 RFS rule) this is obviously insufficient lead time for the planning, approval, design, permitting, construction and start-up of any large capital projects. In addition, this schedule does not provide enough time for a sufficient number of infrastructure projects to have a significant impact on biofuels production and blending at the rack and pump installation at the retail level.



#### f. EPA’s 2014-2016 Proposal and the Reset Provisions

The reset provision of EISA requires EPA to reset the volumes of the RFS through 2022 in the event that any category of renewable fuel is waived by 50% in any single year or 20% in any two consecutive years. EPA tripped the reset trigger for the cellulosic category in 2010 by waiving almost 100% of the cellulosic mandate for that year. Now, upon finalization of this proposal, the reset triggers will be tripped for both the advanced and general renewable mandate categories due to the fact that each category will have been waived by more than 20% for two consecutive years.

	2014			2015			2016		
	EISA	NPRM	% waived	EISA	NPRM	% waived	EISA	NPRM	% waived
<b>Total</b>	18.15	15.93	12.2	20.50	16.30	20.5	22.25	17.40	21.8
<b>Advanced</b>	3.75	2.68	28.5	5.50	2.90	47.3	7.25	3.40	51.3
<b>BBD*</b>	≥ 1.0	1.63*	N/A	≥ 1.0	1.70*	N/A	≥ 1.0	1.80*	N/A
<b>Cellulosic</b>	1.75	0.033	98.1	3.00	0.106	96.5	4.25	0.206	95.2

\*Volumes show in billions of ethanol-equivalent RINs, except BBD (multiply BBD by 1.5 to convert to RINs)

<sup>41</sup> Docket ID: EPA-HQ-OAR-2015-0111-0062

<sup>42</sup> Stock, James H. *The Renewable Fuels Standard: A Path Forward*. Columbia SIPA, Center on Global Energy Policy, April 2015.

EPA is required to complete the reset rulemaking within one year of triggering the reset. Assuming that EPA finalizes the 2014-2016 volumes by November 30, 2015 as required by the Consent Decree, EPA must finalize the reset volumes by November 30, 2016



### g. Reporting Requirements

EPA proposes due dates for RFS reports for obligated parties at sections 80.1451 and 80.1464:

RFS Compliance Period	RFS Compliance Reports	RFS Attest Engagements
2013	January 31, 2016	June 1, 2016
2014	June 1, 2016	December 1, 2016
2015	December 31, 2016	June 1, 2017

We support EPA’s intent not to require the 2013 RFS compliance report until after the 2014 RFS rule is promulgated. We also support the Agency’s proposal to stagger these dates.

This proposed schedule does not conflict with the March 31, 2017 date for submission of the RFS compliance report for 2016 (per 80.1451(a)(1)). However, the proposed date for the attest engagement report for the 2015 RFS for obligated parties (June 1, 2017) conflicts with the date for the attest engagement report for the 2016 RFS (June 1, 2017, per 80.1464(d)).

In order to ensure an accurate assessment of carryover RINs ahead of the 2017 RFS standards rulemaking process, AFPM and API recommend a faster schedule. Obligated parties do not need five or six months between the compliance and attest engagement reports. In addition, obligated parties do not need five to six months between compliance reports for the 2014 and 2015 RFS compliance periods.

Presuming the issuance of final standards by November 30, we suggest the following schedule:

RFS Compliance Period	RFS Compliance Reports	RFS Attest Engagements
2013	February 1, 2016	March 31, 2016
2014	March 31, 2016	June 1, 2016
2015	June 1, 2016	August 1, 2016

Our recommendation would maintain the staggered schedule and complete these activities well before the end of 2016, and avoid any conflict for submitting RFS reports for the 2016 compliance period in 2017.

### III. Real World Constraints Inform API / AFPM's Proposed Methodologies

#### a. E15 is Not a Viable Solution to the Blendwall

We agree with EPA that E15 volumes are likely to be small through 2016.<sup>43</sup> As described in the Waiver Petition, E15 is not a viable solution to the E10 blendwall for three primary reasons.<sup>44</sup> First, E15 is incompatible with most of the existing vehicle fleet.<sup>45</sup> Second, E15 is incompatible with the existing refueling infrastructure. Third, the potential liability issues associated with marketing the fuel will likely hinder E15 introduction. In short, E15 is not a viable alternative for the near future, as changes in the vehicle fleet and infrastructure will take years to occur under even the most optimistic projections.<sup>46</sup>

##### i. E15 is incompatible with the existing vehicle fleet

For gasoline vehicles built before 2011, automobile manufacturers are unanimous in stating that the use of E15 may damage vehicle engines and will not be covered under vehicle warranties. Today, the overwhelming majority of vehicles have neither been certified nor warranted for ethanol blends above 10 volume percent, and every automaker has declined to extend warranty coverage if its legacy vehicles are operated using E15.<sup>47</sup> E15 is only compatible with Flexible Fuel Vehicles (“FFVs”) and some newer model year cars specifically designed to accommodate E15. Together, ethanol blends exceeding 10 volume-percent are only compatible with approximately 10 percent of vehicles on the road.<sup>48</sup>



Auto manufacturers' models recommendations for E15 use in non-flex fuel vehicles as of January 2015 are summarized in the following chart:<sup>49</sup>

<sup>43</sup> NPRM at 33116, footnote 38 – “In general when discussing efforts to increase the use of ethanol beyond the blendwall we focus on the volume of E85 that is consumed, since volumes of E15 are likely to be small in 2016.”

<sup>44</sup> AFPM and API filed a joint waiver petition for 2014 (hereinafter “Waiver Petition”), incorporated by reference and available at: EPA-HQ-OAR-2013-0747-0002.

<sup>45</sup> See Waiver Petition at Section III.B, p. 17.

<sup>46</sup> “Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards, Summary and Analysis of Comments” EPA-420-R-14-004, pp. 5-10 (March 2014) (“And today vehicles are lasting longer, and the average age of all vehicles on the road is 11 years”).

<sup>47</sup> [http://sensenbrenner.house.gov/UploadedFiles/E15\\_Auto\\_Responses.pdf](http://sensenbrenner.house.gov/UploadedFiles/E15_Auto_Responses.pdf)

<sup>48</sup> Based on API analysis of retail sales data published by Automotive News, estimates of the stock of FFVs and total light-duty vehicles in operation published in the EIA Annual Energy Outlook 2015 Reference Case, and auto manufacturer reports of E15-compatible vehicles by model year

<sup>49</sup> <http://www.filluponfacts.com/wp-content/uploads/2015/03/e15-and-your-car.jpg>



Abstract: The purpose of this study was to determine the effect of a 12-week resistance training program on the strength and endurance of the lower extremities in healthy young adults. The subjects were 15 male and 15 female college students, aged 18-25 years, who were randomly assigned to either a resistance training group or a control group. The resistance training group performed a 12-week program of resistance training, while the control group performed no exercise. The subjects were tested at baseline and at 12 weeks for strength and endurance. The results showed that the resistance training group had significantly greater strength and endurance than the control group at 12 weeks. The findings of this study suggest that a 12-week resistance training program can improve the strength and endurance of the lower extremities in healthy young adults.

Most vehicles on the road today aren't recommended for operating on E15 by manufacturers.

12X 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

Reprinted below are excerpts from auto industry responses to Congressman Sensenbrenner's questions about warranties for vehicles that have been operated with E15.<sup>50</sup>

Automaker	E15 Warranty	Excerpts from Sensenbrenner Response
Nissan	No	We are not at all confident that there will not be damage to MY 2001 and later vehicles with E15
Volkswagen	No	Volkswagen agrees that EPA did not conduct an adequate test program when E15 was considered
Volvo	No	The risks related to emissions are greater than the benefits in terms of CO2 when using low-blend E15 for variants that are designed to E10.
BMW	No	The BMW Group engines and fuel supply systems can be damaged by misfueling with E15.
Hyundai	No	The EPA tests failed to conclusively show that the vehicles will not be subject to damage or increased wear.
Kia	No	EPA testing failed to determine that vehicles will not be subject to damage or increased wear.
Chrysler	No	We are not confident that our vehicles will not be damaged by E15
Ford	No	Ford does not support the introduction of E15 into the marketplace for the legacy fleet
General Motors	No	We are not confident that our vehicles will be undamaged by the use of E15.
Mercedes-Benz	No	Any ethanol blend above E10, including E15, will harm emission control systems in M-B engines
Honda	No	Vehicle engines were not designed or built to accommodate higher concentrations of ethanol
Mazda	No	The record fails to demonstrate that motor vehicles would not be damaged
Toyota	No	Toyota cannot recommend the use of fuel with greater than E10 for Toyota vehicles

The ethanol industry recommends following automobile owner's manuals. The Renewable Fuels Association has made the following two statements: "When it comes to ethanol, consumers should cut out the misinformed middle man and instead consult their owner's manual;"<sup>51</sup> "The best advice to give to consumers is for them to read their owner's manuals and follow the advice of the company that provides the warranty, and built the product. Not someone trying to sell you some snake oil."<sup>52</sup>

<sup>50</sup> *Id.* [http://sensenbrenner.house.gov/UploadedFiles/E15\\_Auto\\_Responses.pdf](http://sensenbrenner.house.gov/UploadedFiles/E15_Auto_Responses.pdf)

<sup>51</sup> Bob Dinneen, RFA President, Washington, DC April 7, 2015, Letter to Editor, Wausa Daily Herald. <http://www.wausaudailyherald.com/story/news/local/2015/04/07/letter-ethanol-fuel-perfectly-safe/25414697/>

<sup>52</sup> <http://www.ethanolrfa.org/exchange/entry/read-the-label/>

Tests conducted by CRC showed that ethanol concentrations in gasoline that exceed 10 percent can lead to engine and fuel system damage.<sup>53</sup> Below is a description of the testing itself, the test results, and potential consequences that the test results support.

#### CRC Fuel Systems and Engine Durability Testing<sup>54</sup>

##### Fuel Systems

- \* Fuel pump and fuel level systems testing started in 2008
- \* Employed established testing procedures widely used within the automotive industry to evaluate and predict new product life
- \* Tests were done on fuel pumps and fuel level systems on popular 2001 and newer gasoline light-duty vehicles with actual fleet penetration likely greater than 29 million vehicles in total
- \* Fuel Pump System testing protocols
  - \* Soak (i.e., immersion)
  - \* Endurance test (i.e., “continuous” operation)

##### Engine Durability

- Employed testing protocols used by an OEM. Accelerated testing to simulate approximately 100,000 miles.
- Eight pairs of popular 2001 and newer models were tested.

#### CRC Fuel Systems and Engine Durability Results<sup>55</sup>

- \* Not all vehicles tested showed damage, as some fuel systems and engines passed with no problems
- \* Fuel pump systems on popular 2001 and newer gasoline light -duty vehicles failed or exhibited other adverse effects during testing on E15
- \* Intermediate blends of ethanol caused swelling in some pump impellers – a key component of the fuel pump that moves fuel into the fuel line.
- \* The fuel pump impeller showed loss of vanes as a result of jamming against its housing that caused fuel flow to halt
- \* Two popular gasoline engines used in light -duty automotive applications of vehicles from model years 2001 and newer failed with mechanical damage when operated on E15.

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<sup>53</sup> Coordinating Research Council, “*Intermediate-level Ethanol Blends Engine Durability Study*,” April 2012; Coordinating Research Council, “*Durability of Fuel Pumps and Fuel Level Senders in Neat and Aggressive E15*. ”

<sup>54</sup> “Intermediate Level Ethanol Blends Engine Durability Study”, April 2012, <http://www.crao.com/reports/recentstudies2012/CM-136-09-1B%20Engine%20Durability/CRC%20CM-136-09-1B%20Final%20Report.pdf>; Durability of Fuel Pumps and Fuel Level Senders in Neat and Aggressive E15, January 2013 [http://www.crao.org/reports/recentstudies2013/CRC%20664%20\[AVFL-15a\]/AVFL%2015a%20\[CRC%20664\]%20Final%20Report%20only.pdf](http://www.crao.org/reports/recentstudies2013/CRC%20664%20[AVFL-15a]/AVFL%2015a%20[CRC%20664]%20Final%20Report%20only.pdf)

<sup>55</sup> *Id.*

## CRC Test Results and Potential Consequences<sup>56</sup>

- \* Popular 2001 and newer vehicles impacted
- \* Fuel Pump System
  - \* Fuel pumps seized with E15 on both the soak test and the endurance.
  - \* Consequence: Vehicle stops
- \* Fuel Level Sender System
  - \* Sender signal was “dirty” (e.g., indications of noise, spikes)
  - \* Consequence:
    - \* Vehicle tank shows full when empty, or shows empty when full
    - \* Impacts proper operation of the onboard diagnostic system (check engine light)
- \* Engine Durability
  - \* Valve and valve seat damage
  - \* Consequence: Loss of compression, excess emissions, poor performance, engine repair
- \* Tests assessed long-term damage and may not be reflective of effects associated with short-term (i.e. single tank) use of E15.<sup>57</sup>

### **ii. E15 is Incompatible with the Existing Refueling Infrastructure**

In addition, E15 is incompatible with the existing refueling infrastructure. As much as half of the retail gasoline infrastructure may not be compatible with ethanol blends above 10 percent.<sup>58</sup> Prior to 2010, Underwriters Laboratories (the primary Nationally Recognized Testing Laboratory) had not listed a single dispenser as compatible with any alcohol concentration greater than 10 percent. **Given that states require this certification and that dispensers have useful lives greater than 20 years, the vast majority of dispensers in the country are not currently authorized to dispense E15. The same issue exists with the underground storage tanks and piping systems. Approximately 96% of the gasoline stations in the country are independently owned and it is beyond the control of the obligated parties to require investments to make those stations compliant.**<sup>59</sup>



Stakeholders in the ethanol industry have asserted<sup>60</sup> that the law requires obligated parties – refiners and importers – to invest in retail infrastructure to offer higher ethanol blends even though such obligated parties own less than five percent of the retail gasoline stations. Such assertions are unsubstantiated and simply false. **CAA section 211(o) does not require any party**

<sup>56</sup> *Id.*

<sup>57</sup> Coordinating Research Council, “2014 CRC Hot-Fuel-Handling Program”. March 2015, <http://www.crcao.org/reports/recentstudies2015/CRC%20668/CRC%20668.pdf>

<sup>58</sup> Larry Gregory Consulting, LLC. “A Comprehensive Analysis of Current Research on E15 Dispensing Component Compatibility” March 2012. Found at <http://www.api.org/news-and-media/news/newsitems/2012/aug-2012/~media/Files/Policy/Alternatives/E15-Infrastructure-Comprehensive-Analysis.ashx>

<sup>59</sup> PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. [http://www.pmaa.org/weeklyreview/attachments/PMAA\\_Rebuttal\\_RFA\\_April\\_2015\\_FINAL%20.pdf](http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf)

<sup>60</sup> <http://www.ethanolrfa.org/pages/big-oil-builds-the-blend-wall>,



to invest in retail infrastructure, nor can any such obligation be implied in the law or EPA's implementing regulations. EPA correctly points out in the Proposed Rule that members of the renewable fuel industry are free to invest in such infrastructure – it is after all, their product that they are trying to force on consumers. Indeed, if members of the ethanol industry truly believed that the only market impediment to greater consumption of E15 and E85 were a lack of fueling pumps, they should be willing to invest in retail fueling stations so that they could profitably satisfy the rewards of alleged unmet consumer demand for higher ethanol blends.

To the contrary, EPA granted waivers to allow gasoline that contains E15 for use in certain motor vehicles in 2010 and 2011,<sup>61</sup> yet there has been very little introduction of E15 in the marketplace. There are approximately 100 E15 stations in the following 18 states:<sup>62</sup> Alabama, Arkansas, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, North Carolina, North Dakota, Nebraska, Ohio, Oklahoma, South Dakota and Wisconsin. There are approximately 153,000 retail fuel stations in the U.S.;<sup>63</sup> one hundred E15 stations is about 0.07% of the total retail fuel stations in the U.S. This illustrates a lack of market demand for the fuel, the inability to use E15 in the majority of gasoline-fueled vehicles, the inability to use E15 in non-road vehicles and equipment, and the incompatibility of the existing refueling infrastructure.

The retail refueling system in the United States grew organically as private enterprise made capital investments to sell consumers products that they demanded. There is nothing stopping members of the ethanol industry from doing the same to bring to market more E15, E85, and other renewable fuels to consumers. In fact, the number of retail fuel stations has declined significantly in the past several years, suggesting that there are opportunities for members of the renewable fuel industry to construct renewable fuel fueling stations to provide E15, E85 and

<sup>61</sup> 75 *Federal Register* 68094 (November 4, 2010); 76 *Federal Register* 4662 (January 26, 2011).

\* <sup>62</sup> Miami-based Caraf Oil (Jan 2015)

\* First station in South Florida to offer the ethanol-gasoline blend

<http://www.prnewswire.com/news-releases/first-e15-ethanol-station-in-s-fla-opens-today-300023446.html>

\* Boca Raton-based Protec (Jan 2015)

\* Plans to open 28 E15 fueling stations in Florida and other Southeastern states

<http://www.bizjournals.com/southflorida/news/2015/01/21/protec-fuel-opens-first-e15-ethanol-station-in.html>

\* 2 in Georgia (<http://domesticfuel.com/2015/01/28/protec-opens-e15-station-in-georgia/>)

\* Pennsylvania-Based Sheetz (Jan 2015)

\* 60 stations in North Carolina (<http://www.cspnet.com/fuels-news-prices-analysis/fuels-news/articles/sheetz-bringing-e15-nc-2016>)

\* Arkansas-based Murphy Oil (Feb 2015)

\* Suburbs of Chicago and Houston (<http://globenewswire.com/news-release/2015/02/12/705951/10119969/en/Murphy-USA-to-offer-E15-and-E85-in-Chicago-and-Houston-Locations-in-2015.html>)

\* Noted others (not comprehensive)

\* MAPCO Express (<http://www.cspnet.com/fuels-news-prices-analysis/fuels-news/articles/mapco-express-sell-e15>)

\* Cenex (<http://farmindustrynews.com/blog/chs-offers-e15-tank-program-cenex-fuel-retailers>)

<sup>63</sup> The Fuels Institute, *A Market Performance Analysis and Forecast*, 2014.

other renewable fuels to consumers. If the renewable fuels industry believes there is consumer demand, and are willing to accept the potential liability for selling fuels that are not compatible with consumers' vehicles, and they believe that they will benefit economically from making such investments, then it is reasonable to expect *they* will make such investments. It is not reasonable to forecast that obligated parties or independent retailers will make potentially uneconomic decisions and then base RFS standards on such an assumption.



### iii. The Potential Liability Issues Associated with Marketing the Fuel Will Likely Hinder E15 Introduction

Finally, the potential liability issues associated with marketing E15 will hinder the fuel's introduction. EPA must factor in the risks and potential liabilities presented by E15 in terms of vehicle and infrastructure incompatibility. EPA must avoid promulgating a rule that would require the manufacture and sale of a fuel product (E15) that carries with it a number of substantial (and unresolved) liability issues. Specifically, E15:



- Could damage engines and other systems in millions of vehicles that have been “approved” by EPA for E15, but which are unapproved for such fuel by the vehicle manufacturers and for which use may void the vehicle warranty;
- Is illegal and unavailable for use in tens of millions of other automobiles, trucks, off-road vehicles, boats and small-equipment products, and which will decrease the availability of the gasoline required by owners of these products;
- Results in diminished fuel economy for most vehicles, thus reducing vehicle efficiency at a time when the federal government is promulgating aggressive vehicle efficiency standards; E15 gets 5% less mpg than E0.<sup>64</sup>
- Is incompatible with, and thus cannot legally be stored in or dispensed from, the vast majority of the existing gasoline retail distribution system (see also comments on E85 infrastructure below), thus forcing thousands of small business owners to either incur enormous costs to upgrade their systems or run the economic and environmental risks posed by carrying an incompatible product; and
- Could result in obligated party manufacturers and importers, fuel suppliers, distributors and retailers, engine and vehicle manufacturers, and many others, facing potential liabilities and a continued threat of litigation.

#### b. E85 is Not a Solution to the RFS Blendwall

The proposed volumes for 2016 exceed the E10 blendwall, based on forecast gasoline demand for 2016. EPA states in the preamble that “efforts to increase the use of ethanol beyond the blendwall is primarily a function of the volume of E85 that is consumed.” EPA asks for comment on “whether these proposed 2016 volumes appropriately reflect constraints on supply

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<sup>64</sup> E15 gets less mpg than E0. <http://www.edmunds.com/fuel-economy/controversial-e15-fuel-blend-is-on-the-way.html>



resulting from the E10 blendwall and limitations in production and import capabilities, as well as the ability of the market to respond to the standards we set in the time available.” Stated simply, based on the information provided in the Proposed Rule, it is not reasonable to expect any significant increase in E85 demand in 2016. Relying on the mere possibility that demand for E85 might increase in 2016 is a risky approach for obligated parties, consumers and the economy and EPA should not take such risks.



There are two main pathways for achieving increased E85 volumes. One is to expand the infrastructure by increasing the number of stations offering E85 and the number of flex fuel vehicles in the market that can use E85. The second is to increase volumes through the existing infrastructure (*e.g.*, current FFV owners increasing their use of E85 from existing retail stations that offer E85). Of course, these are not mutually exclusive, so a combination of the two could also result in increased E85 volumes. Below is discussion concerning the inherent difficulties with these pathways.

#### **i. Infrastructure Expansion**

The E85 infrastructure required to facilitate E85 consumption includes primarily the terminals, the retail stations, and the vehicles. We will focus most of our comments on the retail challenges.

#### **ii. Costs are High**

The cost of installing E85 retail infrastructure is high. In a recent letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, the Petroleum Marketers Association of America (PMAA) states, “The problem for underground tank owners is 99 percent of existing equipment currently in the ground is not *legally* certified as compatible with ethanol blends higher than 10 percent.”<sup>65</sup> In the just-released U.S. EPA rule on underground storage tanks, EPA discusses existing systems and states:

EPA thinks there are many cases where some equipment or components of UST systems in the ground as of 2014 are not compatible with newer fuels. Unless owners and operators specifically requested all of the UST system be compatible with higher ethanol or biodiesel blends, installers probably installed lower cost options for certain UST system equipment, such as a STP assembly, which may not be compatible with some newer fuels.<sup>66</sup>

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<sup>65</sup> PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. [http://www.pmaa.org/weeklyreview/attachments/PMAA\\_Rebuttal\\_RFA\\_April\\_2015\\_FINAL%20.pdf](http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf)

<sup>66</sup> EPA rule, “Revising Underground Storage Tank Regulations - Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training,” 80 Federal Register 41604 (7/15/15).

This means most retail stations would have to undergo extensive retrofits to install or upgrade their existing equipment to become E85-compatible and to be able to legally store and dispense E85.

Three marketer associations - Petroleum Marketers Association of America (PMAA), Society of Independent Gasoline Marketers of America (SIGMA), and National Association of Convenience Stores (NACS) - have indicated that the cost of replacing USTs to facilitate E85 sales can exceed \$200,000, per station.<sup>67</sup>

PMAA further stated in their letter to Chairman Upton, “PMAA continues to maintain that E85 fueling pumps are unlikely to achieve meaningful growth without billions of dollars in government subsidies for installation of legally compatible underground storage tank systems and dispensers capable of handling higher content ethanol blends.” If a station is not in compliance with the applicable regulations and codes, marketers can face potential negative consequences. For example, they may have their bank loan called, may be denied an insurance claim and/or access to their state trust fund or face fines and legal action brought by the state or an individual.

PMAA also indicated that E85 pumps are declining in number in some areas. This is consistent with recent testimony provided at the public hearing on June 25, 2015 by a gasoline marketer and owner of a petroleum distribution business in Washington State. The marketer described his efforts to install E85 dispensers at nine stations and his own personal experience in owning and refueling a FFV. Despite good initial response to the E85 offering, he described how E85 sales stopped growing and started to decline even when priced 25% below E10. This resulted in his decision to remove E85 from seven of the nine locations. The Fuels Institute, in its 2014 report entitled *E85 A Market Performance Analysis and Forecast*, states in the Executive Summary that Minnesota leads the nation in E85 retail sites but nonetheless experienced a decline in the number of operating E85 sites from 357 in 2011 to 303 in 2014 (approximately a 15% decline).<sup>68</sup> Although some areas have seen declines, the overall E85 station count has increased since enactment of the Energy Independence and Security Act of 2007. Despite the overall increase in E85 fueling locations, only about 2% of retail fueling locations offer E85.

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<sup>67</sup> SIGMA and NACS letter to Mr. John Podesta, Counselor to the President (July 10, 2014); PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce (May 1, 2015). In recent testimony before the House Science Committee, a witness confirmed an expenditure of \$37,000 to install pumps and piping for an E85 system using an existing UST. Installation of a new dedicated tank for E85 is estimated to cost an additional \$45,000. All combined a new installation to accommodate E85 or ethanol blend pumps would cost in excess of \$80,000 per station. Written Statement of CountryMark Cooperative Holding Corporation before the U.S. House of Representatives, Committee on Science, Space, and Technology (July 23, 2015), <http://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-114-SY20-WState-MSmorch-20150723.pdf>

<sup>68</sup> Full report accessible at: [http://fuelsinstitute.org/ResearchArticles/E85\\_AMarketPerformanceAnalysisForecast.pdf](http://fuelsinstitute.org/ResearchArticles/E85_AMarketPerformanceAnalysisForecast.pdf)



### **iii. Small Business Impacts**

Retail station ownership is dominated by small businesses among which 58% of the stations are owned by individuals who own a single store.<sup>69</sup> As with any business, and even more so for small businesses, when deciding what products to sell, the owner must carefully evaluate the economics involved. This includes product margin and volume forecasts (to gauge revenue) in addition to the infrastructure investment costs to ensure all equipment meets regulatory requirements. The Fuels Institute publication referenced above also reported that E85 sales at the 304 locations from which they collected data averaged 2.8% of unleaded sales with a margin that was 20% lower than unleaded.

If an existing station planned to introduce E85, they might have to replace one or more existing products, depending on whether they planned to add storage tanks and modify dispensers. For example, a retailer might consider the margins associated with selling E85 and compare those to the margins of the product that they were replacing. If they were to replace the Premium fuel in a two-tank system with E85, they would lose the ability to make Midgrade fuel due to the fact that Midgrade is made by blending Regular and Premium fuel at the pump. Therefore, the marketer must compare the potential margins of Premium and Midgrade together with the potential margin of E85. According to the Fuels Institute study, the “combination of margins and volume demonstrate that, over the time period being evaluated, E85 generated an average monthly profit of \$789. This is less profitable than either premium (\$1,193/month) or midgrade (\$1,466/month).”<sup>70</sup> If the station were required to invest in infrastructure changes and replace its premium and/or midgrade gasolines, these average margins show that there would be no payback on such an investment.

### **iv. Flexible Fuel Vehicles**

The number of FFVs in the Nation’s vehicle fleet in 2014 is estimated to be about 14 million, representing about 6% of the light-duty car and truck fleet. EIA, in the 2015 Annual Energy Outlook, forecast FFV sales to remain basically flat over the next several years, in the 350,000

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<sup>69</sup> 2015 NACS Retail Fuels Report, p. 28

[http://www.nacsonline.com/YourBusiness/FuelsReports/2015/Documents/2015-NACS-Fuels-Report\\_full.pdf](http://www.nacsonline.com/YourBusiness/FuelsReports/2015/Documents/2015-NACS-Fuels-Report_full.pdf) (“There are 127,588 convenience stores selling fuel in the United States, and these retailers sell an estimated 80% of all the fuel purchased in the country. Overall, 58% of the convenience stores selling fuel are single-store operators — more than 70,000 stores.”).

<sup>70</sup> Fuels Institute. *E85 A Market Performance Analysis and Forecast*, 2014. Accessible at: [http://fuelsinstitute.org/ResearchArticles/E85\\_AMarketPerformanceAnalysisForecast.pdf](http://fuelsinstitute.org/ResearchArticles/E85_AMarketPerformanceAnalysisForecast.pdf)

vehicles per-year range. Incentives for making more FFVs in the future are phasing out as a result of the new NHTSA/EPA CAFE/tailpipe GHG requirements.<sup>71</sup>

#### v. Lack of E85 Demand

AFPM and API commented extensively on E85 demand, both nationwide and in selected states that have data reporting, in the joint comments submitted in response to the 2014 Standards for the Renewable Fuel Standard Program; Proposed Rule published on November 29, 2013.<sup>72</sup>

EPA states in the preamble to the current Proposed Rule that “The fact that the market only achieved about 130 million gallons of E85 in 2013 despite substantial increases in the production and import of non-ethanol blends and the substantial draw-down in the bank of carryover RINs indicates that E85 consumption was constrained.” We are uncertain how EPA derived the 130 million gallon figure. EIA data tables *U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than E85* (ethanol blends above 55%)<sup>73</sup> shows the volume of E85 blends distributed from bulk terminals. And EIA data tables *Renewable Fuels & Oxygenate Plant Net Production*<sup>74</sup> show E85 distributed directly from ethanol production facilities. These two data series, summed together (as illustrated in the figure below), provide the most reliable estimate of national E85 consumption.

EIA data for U.S. E85 demand is the best source available. When EPA or other organizations gather partial data from different sources in order to estimate national totals, errors occur simply from the fact that different sources use different collection methods with different levels of accuracy. Minnesota E85 data illustrates this explicitly. Minnesota shows differences between the E85 volumes the State’s Department of Commerce collects and E85 volumes collected by the Minnesota Department of Revenue.<sup>75</sup> In 2014, the Department of Revenue E85 data was about 20 percent lower than the data from the Department of Commerce. Determining the best source to use for rulemaking is not easy, but simply cherry-picking the highest number without explanation is arbitrary and capricious.

Note that the 2014 EIA annual E85 volume of 210,000 gallons per day or 77 million gallons per year) is less than 0.1% of annual gasoline demand:

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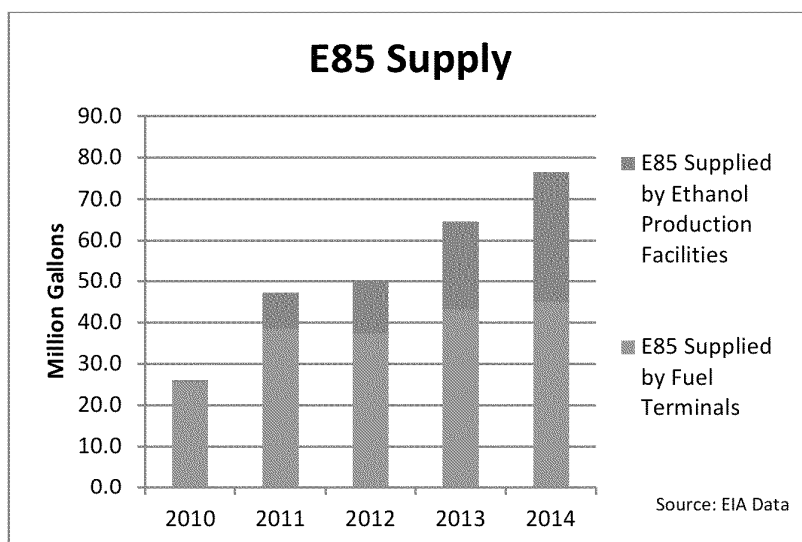
<sup>71</sup> CAFE credits phase out in 2019, (P.L. 110-140, Section 109(a), 49 USC 32906(a)), and other CAFE, GHG (77 FR 62830-62831 and 63127-63130 (October 15, 2012)) and Tier 3 (40 CFR 80.600.117 ) requirements reduce or eliminate automaker incentives to produce FFVs.

<sup>72</sup> AFPM/API Comments on the original 2014 RFS proposal are incorporated in Appendix E and available at: EPA-HQ-OAR-2013-0479-5293.

<sup>73</sup> [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A)

<sup>74</sup> [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A)

<sup>75</sup> “2015 Minnesota E85 + Mid-Blends Station Report” showing data through May 2015.  
<http://mn.gov/commerce/energy/images/2015-05may-e85.pdf>



The EPA's high side estimate of 600 million gallons in 2016 would require that E85 volume increase by a factor of almost 8 compared to the 2014 volumes reported by EIA. For the reasons provided below, this scale of increase is a very unlikely scenario.

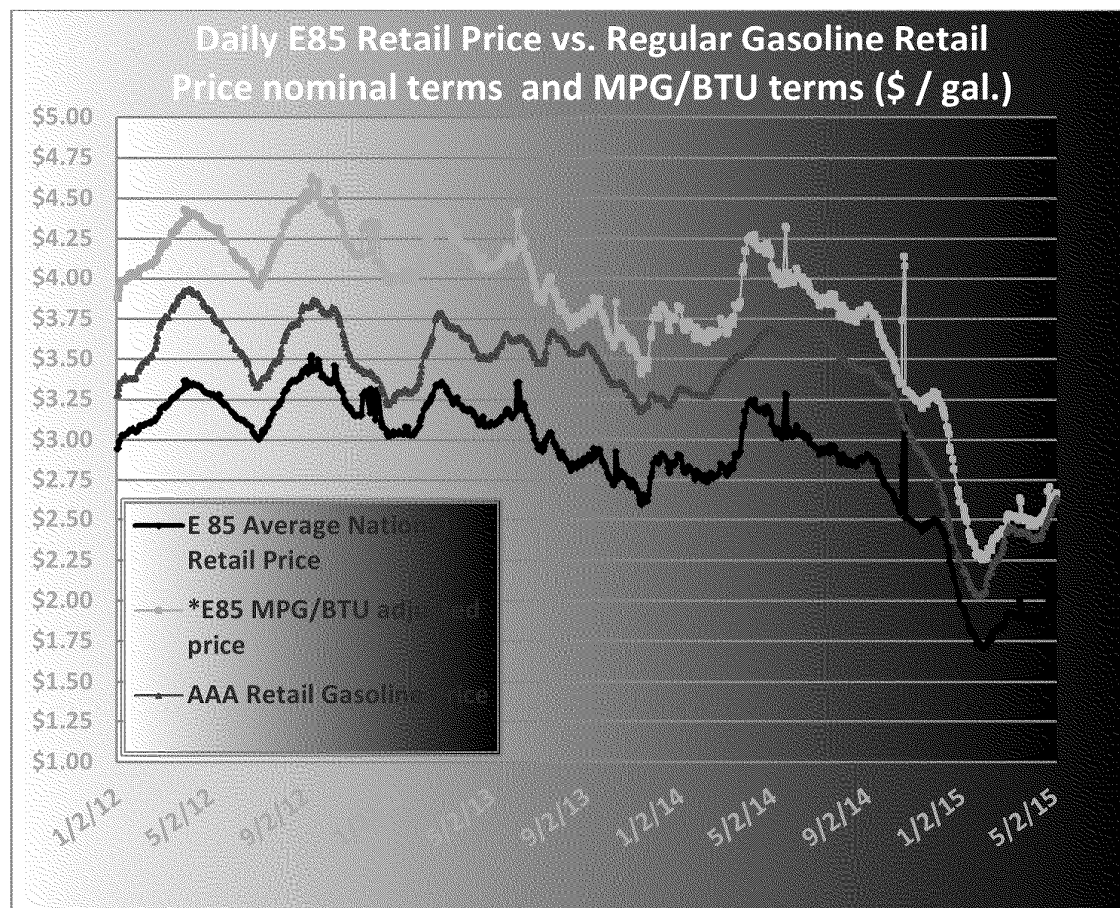
### 1. Consumer Behavior

No definitive study shows why customers have not used E85 with greater frequency.<sup>76</sup> Some short term and limited analysis (focused primarily on a state or two) by The Fuels Institute and EPA indicates that consumers would respond to E85 price adjustments that account for the lower E85 energy content. Historically, this has not happened (as shown by the graph below) so whether this is an accurate predictor of consumer behavior is uncertain. Testimony provided by a gasoline marketer at EPA's Public Hearing in Kansas City, KS on June 25, 2015 indicated that demand declined despite E85 being priced 25% below E10. This would suggest that consumers may be looking at "convenience cost" as well. In general, E85 reduces fuel economy and range by about 20-30 percent," according to the May 2010 EPA Technical Highlights paper, "E85 and Flex Fuel Vehicles."<sup>77</sup> If E85 were sold at an energy-equivalent price, the average consumer would still be inconvenienced because they would have to stop to refuel 30 percent more often than if they used gasoline.



<sup>76</sup> <http://www.eia.gov/biofuels/workshop/presentations/2013/pdf/presentation-04-032013.pdf>

<sup>77</sup> <http://www.epa.gov/oms/renewablefuels/420f10010a.pdf>



Source: AAA

The lack of infrastructure likely has an impact on consumer behavior as well. Not having ready access to a station each and every time the consumer needs to refuel would impact the use of E85. This problem is likely to remain as E85 station expansion continues to have challenges as outlined above.

EIA data shows E85 demand for 2014 was 76.5 million gallons.<sup>78</sup> EPA, in TABLE II.D.2–2 in the preamble, shows various combinations of fuels that could be used to meet the proposed 2016 volume requirements. Even the lowest example for E85 assumes 100 million gallons; a 30% increase from EIA’s reported 2014 volume. Even this low E85 example would require *significant* increased volumes of biodiesel or use of banked RINs to meet the requirements, which are also problematic.

<sup>78</sup> Calculated from the following EIA data: U.S. Refinery and Blender Production of Motor Gasoline, Finished, Conventional, Greater than Ed55 of 1,026 kbbl in 2013 and 1074 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0CAG55\\_YPR\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0CAG55_YPR_NUS_MBBL&f=A) plus Renewable Fuels & Oxygenate Plant Net Production of 513 kbbl in 2013 and 748 kbbl in 2014 found at: [http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\\_EPM0F\\_YNP\\_NUS\\_MBBL&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M_EPM0F_YNP_NUS_MBBL&f=A) Accessed July 17, 2015.

There is not enough data to predict consumer response to efforts to incentivize E85 use and there is not enough time, along with other barriers, to increase the E85 infrastructure. History, along with comments from various individual marketers and marketing associations, indicates that consumer demand for E85 has not materialized and increasing demand in the near future will remain a struggle.

### c. Cellulosic Methodologies

EPA must conduct a *thorough* and *objective* assessment of likely cellulosic biofuel production for 2014-2016 before setting RFS standards for those years. If EPA overestimates cellulosic biofuel production, it will cause fees to be imposed on obligated parties through no fault of their own, and will likely exacerbate political issues that can undermine the stability and effectiveness of the RFS.

To provide some context for our comments below, it is useful to briefly review EPA’s previous attempts to estimate cellulosic biofuel production. In four earlier proposals, the Agency has attempted to develop a methodology that can accurately assess the likely cellulosic biofuel production in the upcoming year. Each year EPA has recognized that cellulosic biofuel production would not meet the statutory volumes and has therefore reduced the cellulosic biofuel applicable volume as required by § 7545(o)(7)(D). Despite those reductions, EPA has grossly overestimated cellulosic biofuel production every year:

Compliance Year	Statutory Requirement (in gallons)	Projected Production (in gallons)	Actual Production (in gallons)
2010	100 million	5 million	0
2011	250 million	6.6 million	0
2012	500 million	8.65 million	20,069
2013	1 billion	6 million	810,185

Drawing on EPA’s history of significant overestimations, the D.C. Circuit held EPA’s 2012 cellulosic biofuel projection to be arbitrary and capricious and vacated the 2012 cellulosic biofuel RFS. *API*, 706 F.3d at 474. The Court concluded that the CAA does not allow EPA “to adopt a methodology in which the risk of overestimation is set deliberately to outweigh the risk of underestimation.” *Id.* at 479. It further emphasized that EPA acted arbitrarily and capriciously by not “tak[ing] neutral aim at accuracy” in its projection. *Id.* at 476. Indeed, EPA

is *not* permitted to “try[] hard to push the envelope” – in direct contradiction with the court’s prior admonition.<sup>79</sup>

Although EPA has consistently overestimated the projected amount of cellulosic biofuel, the Proposed Rule continues to rely on inaccurate projections of the start-up dates, ramp-up rates, and the likely production volumes for the small population of ‘conventional’ cellulosic biofuel facilities that have the potential to generate RINs in 2015 and 2016. Further, the Agency has recently approved a new biogas pathway that is likely to provide large volumes of Renewable Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG). Since those fuels will be providing the overwhelming majority of RINs during 2014-2016, the Agency must provide a much more transparent analysis of its determinations, as much significant information underlying that analysis has been designated as Confidential Business Information (CBI). Within such constraints, EPA must, however, support its analysis of the availability of such fuels in order to facilitate the opportunity for public comment. This is especially true because of the much larger population of facilities (at least 28) and the vastly larger volumes expected by EPA for biogas fuels in 2015 and 2016 (perhaps 100-200 million gallons), which could result in a sizeable overestimation of actual volumes that will generate RINs. EPA’s current analysis of these larger volumes fails the “neutral aim at accuracy” standard that was set forth by the D.C. Circuit.

EPA admits that it is “increasingly aware of the significant uncertainty in predicting fuel production from first of a kind cellulosic biofuel facilities.” To address this, EPA has implemented a 25th percentile production estimate for new plants and a 50th percentile production estimate for existing plants. EPA’s methodology will continue to overestimate production volume of cellulosic biofuels as discussed further in the sections that follow.

#### **i. Liquid Cellulosic Fuels**

While the dominant cellulosic biofuel in the RFS has been biogas, it is important for EPA to develop an accurate approach to estimating production from liquid cellulosic biofuels. The Proposed Rule correctly identifies a handful of “conventional” facilities that are likely to produce some volume of liquid cellulosic biofuel in 2015-2016. EPA has improved its assessment from previous years by recognizing that several facilities that might start and finish construction prior to the end of 2016 should not be included in their analysis, as it is unlikely they will produce any significant volume of fuel.

EPA, however, has consistently overestimated the volumes of liquid cellulosic biofuels in their RFS proposals for each of the past four years. This can be seen in the 2011, 2012, and 2013 RFS final rulemakings and the 2014 RFS proposal.

- 2011 EPA projected cellulosic production of 21% of cumulative design capacities vs. actual production of 0% of cumulative design capacities.

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<sup>79</sup> EPA Newsroom. Speeches by Administrator Gina McCarthy, Remarks at National Corn Growers Association, As Prepared, July 16, 2015.

- 2012, EPA projected cellulosic production of 33% of the cumulative design capacities vs. actual production of 0.21% of cumulative design capacities.
- 2013, EPA projected cellulosic production of 24% of the cumulative plant capacities vs. actual production of 2.76% of cumulative design capacities.
- 2014, EPA projected cellulosic production of 45% of the cumulative plant capacities vs. actual production of 0.85% of cumulative design capacities.

The Proposed Rule repeats this mistake. EPA estimates that newly constructed liquid cellulosic biofuel plants will produce in the 25th percentile of their estimated production range and existing plants will produce in the 50th percentile of their estimated production range. This is outlined in the chart below. EPA makes no effort to justify this choice of methodology or explain how it is likely to produce results that “take neutral aim at accuracy.” Indeed, the percentiles bear no relationship whatsoever to the available data. Although certain values are being withheld as CBI, the EPA projection for 2015 liquid cellulosic biofuel volume is calculated to be approximately 8.75 million gallons. This is approximately equivalent to 8.3% of the cumulative design capacity.



2015 EPA estimated 25<sup>th</sup> and 50<sup>th</sup> percentile production from liquid cellulosic plants.

Facility	Abengoa	Cool Planet	DuPont	Edeniq	Ineos Bio	Poet/DSM	Ensyn	Quad County
Design Capacity	25	10	30	3	8	24	3	2
Est. Min Production	0	0	0	0	0	0	CBI	CBI
Est. Max Production	12	0	5	1	4	4	1	2
Assigned Percentile	25	25	25	25	25	25	50	50
Est. 25th Percentile Volume	6.5							
Est. 50th Percentile Volume	2.25							
Est. Total Volume	8.75							
Percent of Design Capacity	8.3%							

Although the value of 8.3% of cumulative design capacity is an improvement relative to past rulemakings, this value is again overly optimistic. A more reasonable estimate of cumulative production would be in line with the historic maximum actual production that occurred in 2013 – production of approximately 3% of the cumulative plant capacities. If applied to the cumulative 2015 plant design capacity (108 million gallons), this would equate to a 2015 production of approximately 3 million gallons of liquid cellulosic biofuel.



#### Estimated Maximum Production Range

The EPA proposal describes the estimated maximum production range as being based on factors that include expected start-up dates, ramp-up periods, facility capacity, and fuel off-take agreements. A benchmark volume was estimated using start-up date, capacity, and a six-month straight line ramp-up period. The EPA used this calculated value as the maximum production volume, unless the specific manufacturing company provided feedback with a lower projected production volume. EPA continues to accept production forecasts from cellulosic biofuel manufacturers even though these forecasts have historically proven to be inaccurate. Based on



past history, most of the calculated maximum production values are overly optimistic due to a number of erroneous assumptions, described in more detail below.

### **1. Announced Startup Dates Have Been Historically Inaccurate**

Liquid cellulosic biofuel facilities have habitually missed announced start-up dates.

Abengoa originally projected a startup date of 2010 for their cellulosic biofuel facility.<sup>80</sup> After many delays, Abengoa held its grand opening in October, 2014.<sup>81</sup> In June 2015, the Oil Price Information Service reported the Abengoa facility is still progressing through the commissioning phase.<sup>82</sup>

Another recent example is the Beta Renewables facility in Crescentino, Italy. The original startup date was announced as the first half of 2012,<sup>83</sup> however actual start up did not occur until the middle of 2013.<sup>84</sup>

Similar delays between announced and actual startup dates have been observed for the KiOR, INEOS Bio and Poet/DSM plants.

### **2. Production Ramp-Up Assumptions Have Been Historically Inaccurate**

To calculate the maximum volume for each given production range, EPA assumes a linear production ramp up to nameplate capacity over a 6 month period of time. Actual experience from the following five commercial cellulosic facilities confirms that this assumption is unrealistic:

KiOR – Over the first 9 months of operation, this facility produced at an overall utilization of less than 10% of nameplate capacity. KiOR subsequently ceased operation and filed for bankruptcy in Nov 2014.

INEOS Bio – Startup was announced July 2012. EMTS data (derived by subtracting announced KiOR volumes) showed essentially no production and the facility was cited as having “several unexpected start-up issues.” In 2014, the facility was idled to address technology issues. Recently the facility has come back online, but to date is only producing at a small fraction of nameplate capacity.

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<sup>80</sup> It's in the grass: Oklahoma set to plant first production-scale switchgrass field, <http://venturebeat.com/2008/04/30/its-in-the-grass-oklahoma-set-to-plant-first-production-scale-switchgrass-field/>, Last Available June 2015.

<sup>81</sup> Abengoa plant has multiple feedstock capabilities, <http://ethanolproducer.com/articles/11566/abengoa-plant-has-multiple-feedstock-capabilities>, Last Available June 2015.

<sup>82</sup> Abengoa Looking at Construction of Cellulosic Ethanol Plant in France, OPIS Biofuel News, June 10th, 2015.

<sup>83</sup> Chemtex, TPG found Beta Renewables, invest €250M, to scale up cellulosic ethanol, <http://www.biofuelsdigest.com/bdigest/2011/10/17/chemtex-tpg-found-beta-renewables-invest-e250m-to-scale-up-cellulosic-ethanol/>, Last Available June 2015.

<sup>84</sup> Crescentino's Biorefinery Grand Opening, <http://www.betarenewables.com/press-release-detail/2/crescentinos-biorefinery-grand-opening>, Last Available June 2015.



Beta Renewables – Announced the first shipment of fuel during June 2013. A conservative estimate of total 2014 production equates to approximately 7% of the 75 million liter annual nameplate capacity. In an October, 2014 article<sup>85</sup>, it was noted that Beta Renewables experienced (and continues to experience) “a significant ramp up time for Crescentino.” There is no evidence to date that this plant has attained nameplate capacity production.

Abengoa – The facility grand opening was held in October 2014. As of June, 2015 Abengoa was withholding production rates, but commented that it is still “moving through the commissioning setup,” and unsure whether they would reach nameplate capacity in 2015 or 2016.

Poet/DSM – Facility grand opening was held in September 2014. At the June 2015 Fuel Ethanol Workshop and Expo, Poet commented that the facility is “still in a startup mode,” and that “We are able to put out batches of ethanol, but not at a continuous flow, not significant gallons.”<sup>86</sup>

EPA provides no supporting evidence to validate the 6-month ramp-up assumption in the current proposal and even acknowledges there has been a “history of start-up delays and missed production targets in the cellulosic biofuels industry.” As cellulosic biofuel production data become available, EPA should rely on producers’ demonstrated ability to increase plant production rates. If the five companies listed above are predictors of future performance, a 6-month ramp-up has no foundation in the empirical evidence for liquid cellulosic biofuel production. In each of the past several years, EPA has predicted cellulosic biofuel facilities would be producing significant quantities of cellulosic fuel. EPA now discards the fact that a several year ramp-up proved to be an inadequate amount of time for this new technology to produce commercial scale quantities of liquid cellulosic biofuels and continues to assume that a 6-month ramp-up is reasonable. The use of a 6-month ramp-up in the face of this historical track record is arbitrary and capricious.

### **3. Production Percentile Estimates Have Been Historically Inaccurate**

In the proposal, EPA has implemented a 25th percentile production estimate for new plants and a 50th percentile production estimate for existing plants. As noted above, EPA makes no effort to justify this choice of methodology or explain why it is likely to produce results that “take neutral aim at accuracy.” Although the Proposed Rule generally states that there are uncertainties and risks for new technologies, it provides no specific rationale for choosing a 25th percentile production. Likewise, the 50th percentile production estimate for existing plants was chosen without any rationale linked to historical references. EPA should provide a detailed rationale for these estimates or at least provide some justification for their use in this proposal.

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<sup>85</sup> Good times for now, headwinds on the horizon: Q3 earnings time for the advanced bioeconomy, energy, <http://www.biofuelsdigest.com/bdigest/2014/10/30/good-times-for-now-headwinds-on-the-horizon-q3-earnings-time-for-the-advanced-bioeconomy-energy/>, Last Available June, 2015.

<sup>86</sup> POET-DSM Ethanol Plant Still in Startup Mode: Spokesman, OPIS Biofuel News, June 9th, 2015.

## ii. Biogas-Derived Cellulosic Biofuels

EPA appears to acknowledge that production of “traditional” liquid cellulosic biofuel has been and will remain quite low. The Proposed Rule relies largely on existing forms of fuels—such as compressed natural gas (CNG) and landfill natural gas (LNG)—to justify its increased volume projections. EPA’s reliance on these alternative forms of fuels is an implicit recognition that the technology does not exist to produce the type of cellulosic biofuel that Congress envisioned when it passed EISA.

Furthermore, EPA’s projection of LNG/CNG includes several invalid assumptions in the estimation of potential future volumes. Specifically, the Proposed Rule uses a 25th percentile estimate of production for facilities that have not yet generated a cellulosic biofuel RIN. This approach is overly optimistic for the following reasons:

Not all new facilities are capable of producing transportation-grade biogas. Of the approximate 640 US landfill biogas projects, it is estimated that less than 8% produce a high BTU gas capable of being upgraded into a transportation-grade biogas.<sup>87,88</sup> An even smaller percentage of high BTU projects exist for digester and other biogas projects.

Facilities producing biogas-derived cellulosic fuel need to be located near an existing pipeline to enable movement to areas where biogas-derived cellulosic fuel will be utilized by the transportation fleet. Since most biogas-derived cellulosic fuel is consumed in California, pipeline transportation is required (except for small quantities currently used in local fleet use). It is unreasonable to assume that all facilities not currently generating cellulosic biofuel RINs would be located near a pipeline.



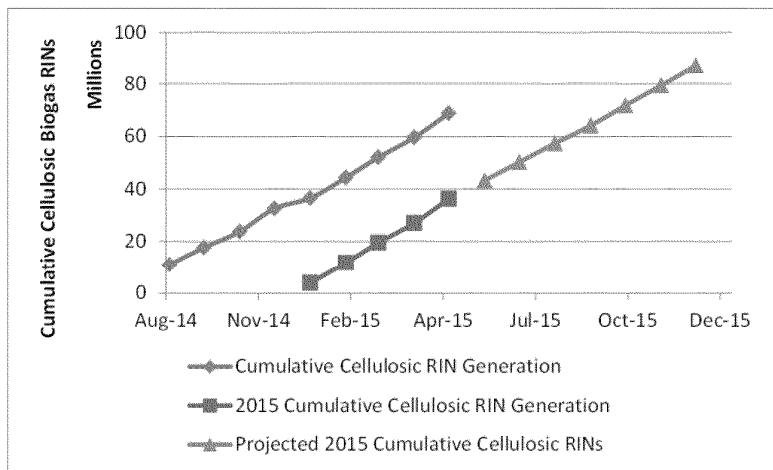
There are alternative uses and competition for biogas-derived cellulosic fuel. State renewable portfolio standards (RPSs) require an increasing amount of renewable electricity. One cost-effective method of meeting the RPS requirements is through the use of biogas to generate electricity. Also, many biogas facilities use at least a portion of the generated biogas to generate local power. Any additional existing capacity would need to be diverted away from these uses.

Given these factors, a more appropriate method for estimation of cellulosic-derived biogas RINs is to look at historic proven RIN generation and project cumulative volumes. The EPA proposal lists cellulosic-derived biogas RIN generation from August 2014 through May 2015. A cumulative total over the ten months of reporting shows that approximately 69 million cellulosic-derived biofuel RINs were reported (blue line in plot below). The 2015 data for January through May shows a cumulative production of 36 million cellulosic-derived biofuel RINs. Projecting this data out to December 2015 and using the slope of the total cumulative production since August 2014, gives a production estimate of 87 million cellulosic-derived biogas RINs for 2015 (green projection line).

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<sup>87</sup> Biogas Opportunities Roadmap, US Department of Agriculture, Aug 2014

<sup>88</sup> EPA Landfill Methane Outreach Program, <http://www.epa.gov/lmop/documents/xls/opprjlmopdata.xlsx>, Last Available July, 2015



The estimate of 90 million equivalent gallons (87 million biogas-derived cellulosic and 3 million liquid cellulosic) is lower than EPA’s projected volume of 106 million equivalent gallons for 2015, and much lower than EPA’s projected volume of 206 million equivalent gallons for 2016 (1 cellulosic biogas RIN = 1 equivalent gallon), but this approach uses a data driven methodology, based on proven cellulosic RIN generation. EPA has not shown that the technological and supply-chain conditions exist for a 100 million gallon equivalent increase in biogas-derived cellulosic biofuel between 2015 and 2016.

\* \* \*

The above discussion underscores the need for EPA to use credible data inputs in its analysis of potential cellulosic biofuel volumes. Instead, EPA continues to rely upon calculations using unsupported assumptions and estimates provided by cellulosic producers to generate production estimates. Indeed, EPA continues to accept production forecasts from cellulosic biofuel manufacturers even though these forecasts have been wrong every year. In a recent example, the Coalition for Renewable Natural Gas estimated that August 2014 to December 2014 Cellulosic Biogas Production would be 69 million equivalent gallons,<sup>89</sup> more than twice the actual production of less than 33 million equivalent gallons during that period. In this RFS proposal, EPA is basing its projections on input collected from the Coalition for Renewable Gas. We continue to recommend that EPA use historical production data when setting the annual cellulosic biofuel standard. Otherwise, the Proposed Rule will fail to “take neutral aim at accuracy.”


### iii. Cellulosic Biofuel Volumes for 2014, 2015, and 2016


The proposed 2014 cellulosic biofuel volumes are set at actual production levels, and that is acceptable to API and AFPM in this instance, given the particular circumstances in this rulemaking.

<sup>89</sup> Presentation by Coalition for Renewable Natural Gas, Waste to Biogas & Clean Fuels Finance & Investment Summit, Santa Clara, CA March, 2015.

To estimate 2015 and 2016 production, EPA indicates it is employing a “slightly different” approach than the one used in its most recent proposal in November 2013. For 2015, EPA proposes to use actual production for the January to March period, and then use its new methodology to predict production during the remaining nine months. Clearly, when EPA is finalizing this rule, it will have access to actual production data for at least the first six months of 2015, and it will only need to estimate production for the second half of the year. For 2016, EPA will be estimating production for the full 12-month period, and absent a significant change in its methodology, it is likely that EPA will again overestimate production.

There are at least two flaws with the proposed cellulosic volume requirements for 2015 and 2016.

 *First*, the statute requires EPA to obtain the required EIA estimates for cellulosic biofuel production and place it in the docket for this rulemaking. *See* 42 U.S.C. § 7525(o)(7)(D)(i). These estimates are not only mandated by the statute, but they are intrinsic to the calculation of annual percentage standards. It is well settled that “[a]n agency commits serious procedural error when it fails to reveal . . . the technical basis for a proposed rule in time to allow for meaning commentary.” *Connecticut Power & Light Co. v. Nuclear Regulatory Comm’n*, 673 F.2d 525, 530-31 (D.C. Cir. 1982); *see also Chamber of Commerce of U.S. v. SEC*, 443 F.3d 890, 901-06 (D.C. Cir. 2006) (vacating a rule on that basis). EPA’s failure to obtain and publish the EIA estimates for cellulosic biofuel production renders the cellulosic biofuel volume requirements for 2015 and 2016 arbitrary and capricious.

*Second*, as noted above, EPA continues to employ the same flawed methodology for projecting cellulosic biofuel production in this proposal. EPA’s overall process is becoming increasingly complicated with the present inclusion of landfill biogas fuels, for which limited production data is currently available. As established above, EPA’s projections “fail to take neutral aim at accuracy” because they are inconsistent with the data that *are* available. 

#### IV. A Waiver is Needed to Prevent Severe Harm to the Economy

The Clean Air Act grants EPA two types of general waiver authorities with respect to the RFS program: EPA is authorized to waive statutory RFS requirements based on a determination that (1) “implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States,”<sup>90</sup> or “there is an inadequate domestic supply.”<sup>91</sup> The NPRM proposes to grant waivers for 2015 and 2016 based solely on a determination that there is an inadequate domestic supply, without considering whether implementing the statutory requirements would severely harm the economy.<sup>92</sup> Indeed, the NPRM does not directly address the issue of severe economic harm, even though EPA has substantial evidence that a waiver is needed to avoid such harm.

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<sup>90</sup> 42 U.S.C. § 7545(o)(7)(A)(i).

<sup>91</sup> *Id.* § 7545(o)(7)(A)(ii).

<sup>92</sup> *See* NPRM at 33104, 33111-33114.

Although the statute does not require EPA to waive the statutory renewable fuel requirements on both grounds, it is well settled that a regulation is arbitrary and capricious if it “entirely fail[s] to consider an important aspect of the problem.”<sup>93</sup> Whether RFS mandates will result in severe harm to the economy undoubtedly is an important aspect of the problem that EPA is obligated to consider. Accordingly, EPA should consider *both* of the statutory grounds for granting a general waiver, and should determine that both support a general waiver for 2015 and 2016.

In its comments on EPA’s Proposed Rule for 2014, API and AFPM submitted extensive evidence, including a major economic study by NERA, that a general waiver is needed to avoid severe harm to the national economy.<sup>94</sup> In its current NPRM, EPA declined to respond to AFPM’s and API’s prior submission.<sup>95</sup> Accordingly, API and AFPM are resubmitting an updated version of their comments and the 2012 NERA study. EPA is not free to ignore this evidence on a vitally important issue.<sup>96</sup>

The original NERA study, re-submitted as Appendix D to these comments, demonstrates that implementation of the statutory RFS standards after the blendwall is breached will cause severe harm to the national economy.  The study demonstrates, among other things, that:

- The U.S. fuel market lacks the physical infrastructure, compatible vehicles, and consumer demand to overcome the blend wall;
- E85 and E15 are compatible with approximately 6 and 10 percent respectively of the existing vehicle fleet, and the vast majority of retail infrastructure is not compatible with ethanol above 10 percent volume;
- Approximately 96 percent of all retail gasoline stations are independently owned and operated,<sup>98</sup> and thus are not obligated parties under the RFS program;
- Biodiesel cannot fill the gap because of limitations on biodiesel supply resulting from feedstock constraints; and
- Declines in the quantity of gasoline consumed in the United States, coupled with increases in fleet efficiency, further exacerbate the problem by reducing the maximum amount of ethanol that can be blended into the transportation-fuel supply.<sup>99</sup>

<sup>93</sup> *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

<sup>94</sup> See Comments of the Am. Fuel & Petrochem. Mfrs. and the Am. Petroleum Inst., Docket ID Nos. EPA-HQ-OAR-2013-0747, EPA-HQ-OAR-2013-0479 (Jan. 28, 2014).

<sup>95</sup> See NPRM at 33104.

<sup>96</sup> See *Delaware Dep’t of Natural Res. & Envtl. Control v. EPA*, 785 F.3d 1, 15 (D.C. Cir. 2015) (EPA must respond to “relevant and significant” comments); *Reytblatt v. U.S. Nuclear Regulatory Comm’n*, 105 F.3d 715, 722 (D.C. Cir. 1997) (agencies “must respond in a reasoned manner to [comments] that raise significant problems”).

<sup>97</sup> See NERA ECONOMIC CONSULTING, ECONOMIC IMPACTS RESULTING FROM IMPLEMENTATION OF THE RFS2 PROGRAM 2 (2012) (hereinafter 2012 NERA STUDY) (Appendix D).

<sup>98</sup> PMAA letter to Chairman Upton and Ranking Member Pallone, House Committee on Energy and Commerce, May 1, 2015. [http://www.pmaa.org/weeklyreview/attachments/PMAA\\_Rebuttal\\_RFA\\_April\\_2015\\_FINAL%20.pdf](http://www.pmaa.org/weeklyreview/attachments/PMAA_Rebuttal_RFA_April_2015_FINAL%20.pdf)

<sup>99</sup> See also U.S. ENERGY INFORMATION ADMINISTRATION, *SHORT TERM ENERGY OUTLOOK* Table 4a (June 2015).

As the RFS-mandated volumes increase in the face of declining gasoline demand and infrastructure and vehicle incompatibility constraints, obligated parties will need more RINs than they can generate from E10. But because other obligated parties will be in the same situation, it will become difficult or impossible for obligated parties to purchase RINs in order to meet their RFS obligations and sustain their level of gasoline or diesel production and imports.

The NPRM correctly explains why EPA should not rely on a further drawdown of the RIN bank to meet the volume requirements for 2014 or future years.<sup>100</sup> Even at the current level of excess and carryover RINs, some obligated parties may not be able to obtain sufficient RINs.<sup>101</sup> And once the RIN bank is depleted, obligated parties will be forced to resort to drastic alternative measures.<sup>102</sup> the 2012 NERA study explains, individual obligated parties, each acting independently, will have no practical option but “to reduce their RIN obligation by decreasing the volume of transportation fuel supplied to the domestic market—either by reducing production,” reducing gasoline imports, or increasing transportation fuel exports.<sup>102</sup>

When that point is reached, the harm to the national economy will be severe. The 2012 NERA study demonstrates that a significant decrease in domestic fuel supplies will cause major economic disruption, including large increases in transportation fuel costs, loss of employment, and decreased GDP. If there are not sufficient RINs available, there is no option to remain in compliance with the law except to reduce the obligation. EPA should not expect obligated parties, or anyone else, to knowingly and willfully violate the law to avoid the negative impacts of an infeasible law. The only realistic options to avoid severe economic harm are for Congress to change the law, or for EPA to exercise its general waiver authority to adjust the mandates to achievable levels consistent with the capabilities of vehicles and infrastructure to consume the renewable fuels. Absent waivers, the economic disruption will increase significantly each year as the statutory RFS obligations increase.

The 2012 NERA study describes how the process will unfold in the diesel fuel market. “The tightening of the diesel supply (up to 15% decline in 2015)” likely will cause “large fuel cost increases to ripple through the economy, adversely affecting employment, income, consumption, and GDP.”<sup>103</sup> “By 2015, the adverse macroeconomic impacts” are estimated to “include a \$770 billion decline in GDP and a corresponding reduction in consumption per household of \$2,700.”<sup>104</sup> These harms are unprecedented, and they will grow worse over time as the gap between supply and the RFS volume requirements increases.<sup>105</sup>

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<sup>100</sup> See NPRM at 33130.

<sup>101</sup> See, e.g., Frank Pici, Monroe Energy Letter to EPA, Docket ID No. EPA-HQ-OAR-2012-0546-0110 (Apr. 7, 2013).

<sup>102</sup> 2012 NERA STUDY, *supra*, at 2.

<sup>103</sup> *Id.* at 3.

<sup>104</sup> *Ibid.*

<sup>105</sup> Those economic harms dwarf the harms that EPA found insufficient for a waiver in 2008 and 2012. EPA’s denial of the 2012 waiver request filed by several states concluded that the waiver would have decreased annual household expenditures on fuel by \$1.98-\$17.40.<sup>105</sup> Similarly, in EPA’s denial of Texas’s 2008 waiver petition, EPA concluded implementation of the RFS would increase annual household expenditures only \$3.43-\$34.29.

In July 2015, API commissioned NERA to again study the potential transportation sector and macroeconomic impacts of the RFS program.<sup>106</sup> The 2015 study, like the 2012 study, assesses the impact of maintaining the statutory volumes specified in EISA. As NERA shows, returning to the statutory schedule is infeasible. Constraints on the fuel market's ability to supply additional volumes of biofuels expressed in the 2012 NERA Study continue to remain, and the resulting decrease to domestic transportation fuel supply similarly lead to economic harm.

NERA explains: "When the required biofuel volume standards are too severe, as with the statute scenario, the market becomes disrupted because there are an insufficient number of RINs to allow compliance. "Forcing" additional volumes of biofuels into the market beyond those that would be "absorbed" by the market based on economics alone at the levels required by the statute scenario will result in severe economic harm."

The 2015 NERA study concludes the following:

- In 2015 and beyond, it is not feasible to achieve the statutory volumes of total renewable fuel required under EISA. The current level of gasoline demand, the blend wall limiting the share of ethanol that can be blended into the gasoline pool, and the lack of non-ethanol biofuels limit the market potential for total renewable biofuels. Similarly, the current market potential for higher ethanol content gasoline like E85 and E15 is too small to have an immediate impact on the amount of ethanol that the gasoline market can absorb.
- Only by the EPA invoking its two different waiver authorities to issue a waiver for cellulosic ethanol and the same deduction for the total renewable biofuels and advanced biofuel volumes requirements as well as a general waiver for both advanced biofuels and total renewable fuels would allow the RFS2 to be feasible.
- NERA's conclusion that it is infeasible to achieve the statutory volumes for total renewable fuels in 2015 and beyond is consistent with NERA's findings from its 2012 study, which also found that if the EPA retained the EISA statutory volumes, severe economic harm would result in the 2015 to 2016 time frame. Infeasibility has not occurred yet because EPA has recognized the blend wall and is proposing volumes below the statutory levels

Even apart from the NERA studies and other similar studies, EPA's tentative conclusion that there is an inadequate domestic supply of renewable fuel for 2015 and 2016 implies that a waiver is needed to avoid severe harm to the economy. If the statutory RFS volumes cannot be met as a result of the practical and legal constraints identified in the NPRM, then obligated parties will be in exactly the situation described in the 2012 NERA study. After exhausting options such as drawing down excess RINs and altering their product mix, obligated parties will be reduced to cutting production, increasing exports, or reducing imports in order to comply with the statutory RFS requirements. Those drastic measures will rapidly lead to severe harm to the national economy, as described in the 2012 NERA study.

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<sup>106</sup> NERA ECONOMIC CONSULTING, ECONOMIC IMPACTS RESULTING FROM IMPLEMENTATION OF THE RFS2 PROGRAM (2015) (hereinafter 2015 NERA STUDY) (Appendix A)

The evidence available to EPA, readily satisfies EPA’s interpretation of “severe economic harm.” To be sure, EPA has said that the “severe economic harm” waiver requires a “high statutory threshold,” and has declined to exercise the waiver provision in the absence of evidence that RFS requirements will result in substantial economic damage.<sup>107</sup> But the data presented in the 2012 NERA study are fundamentally different from the studies previously considered and rejected by EPA. Specifically, the 2012 NERA study differs in two fundamental respects from those studies: (1) with respect to its assumptions about E10 production; and (2) in its economic modeling. In both respects, the 2012 NERA Study responds directly to EPA’s stated criteria for analyzing waiver petitions and shows that, absent a waiver, the economic damage will be significant.

While AFPM and API believe that EPA has adopted an unnecessarily narrow view of its authority to issue waivers under section 211(o)(7)(A), in this case the effects described in the 2012 NERA Study unquestionably rise to the level of severe economic harm upon which a waiver can be based. EPA should, however, apply the “severe economic harm” waiver in a prospective, forward-looking fashion. The text of the waiver provision, which allows a waiver if a volume requirement “*would* severely harm the economy or environment of a State, a region, or the United States,” supports a forward-looking approach. The onset of the effects described in the NERA studies could come rapidly, leaving EPA insufficient time to make further changes to the RFS program to avoid severe economic harm. EPA has already recognized that it has discretion to determine the relevant time period for examination in its analysis of North Carolina’s and Arkansas’s waiver petitions.<sup>108</sup>

## **V. EPA Appropriately Proposes to Use its RFS Waiver Authorities to Address the Decline In Gasoline Consumption, the E10 Blendwall, and Market Conditions Affecting the Supply of Transportation Fuel**

EPA correctly observes that the Proposed Rule “comes during a period of transition for the RFS program” and that there are “constraints on supply to vehicles and engines”<sup>109</sup> that prevent the Agency from imposing the renewable fuel volumes requirements in CAA section 211(o)(2)(B) and that justify the use of EPA’s waiver authorities to provide a measure of relief from those requirements. EPA must establish RFS volumetric standards based on available projections of the use of transportation fuel and the corresponding ability of the fuels market to utilize renewable fuel. It must also consider the infeasibility of blending ethanol into gasoline at levels above 10% percent by volume given that most vehicles on the road today cannot burn blends with higher volumetric percentages of ethanol. The documented overall decline in gasoline consumption in the United States, particularly since the enactment of EISA, has exacerbated the problems presented by the E10 blendwall, making an exercise of EPA’s waiver authority both appropriate and necessary. We discuss the legal authority supporting EPA’s exercise of its waiver authorities in the context of the Proposed Rule in Appendix B, *infra*.

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<sup>107</sup> See 77 *Federal Register* at 70,753.

<sup>108</sup> See 77 *Federal Register* 70,752, 70,757 (Nov. 27, 2012).

<sup>109</sup> NPRM at 33102.




## VI. Proposed Rescission of the 2011 Cellulosic Biofuel Standard is Appropriate

API and AFPM support EPA's proposal to grant their petitions for reconsideration, rescind the 2011 cellulosic biofuel mandate, and refund the money paid by obligated parties to purchase cellulosic biofuel waiver credits.<sup>110</sup> In promulgating the 2011 cellulosic biofuel standard, EPA produced an aspirational, rather than a realistic, cellulosic biofuel production estimate. 

The U.S. Court of Appeals for the District of Columbia Circuit vacated the 2012 cellulosic biofuel standard on the grounds that EPA failed to apply a "neutral methodology" because "the risk of overestimation [was] set deliberately to outweigh the risk of underestimation."<sup>111</sup> In promulgating the 2011 cellulosic biofuel standard, EPA has now acknowledged that it used essentially the same methodology that the D.C. Circuit held to be unlawful.<sup>112</sup> EPA's acknowledgment that it failed to apply a neutral methodology in establishing the 2011 cellulosic biofuel standard compels the Agency to rescind the standard.

## VII. EPA Cannot Continue to Ignore Statutory Timelines

EPA acknowledges that the Agency's delay in issuing standards for 2014 and 2015 created additional uncertainty in the marketplace and states that it is "committed to returning our standard-setting process to the statutory schedule."<sup>113</sup> EPA fails to explain, however, why a final rule for the 2014 RFS that was transmitted to the Office of Management and Budget ("OMB") on August 22, 2014, was under consideration for three and one-half months by OMB and then summarily abandoned. In explaining this inordinate delay, EPA has only stated that its original proposal to establish 2014 RFS standards<sup>114</sup> generated "significant comment and controversy, particularly about how volumes should be set in light of lower gasoline consumption than had been forecast at the time that the EISA was enacted, and whether and on what basis the statutory volumes should be waived."<sup>115</sup> But EPA fails to acknowledge that it would have necessarily addressed comments received in the Proposed Rule prior to transmittal of a draft final rule to OMB. Altogether, the original Proposed Rule to establish 2014 RFS standards remained pending at OMB for over nine months, until it was subsequently withdrawn upon issuance of this NPRM. EPA should more fully explain this sequence of events and how it can assure that it will return to the statutory schedule when it has not explained past failures to comply despite having full knowledge of the annual obligations imposed on EPA by the RFS program. 

Due to EPA's chronic inability to comply with RFS statutory deadlines, AFPM and API filed an action to compel EPA to establish renewable fuel obligations for 2014 and 2015.<sup>116</sup> In this

<sup>110</sup> See 78 Fed. Reg. at 71737, 71751; see also NPRM at 33145.

<sup>111</sup> *API v. EPA*, 706 F.3d 474 (D.C. Cir. 2013).

<sup>112</sup> 78 Fed. Reg. at 71751 (EPA "used essentially the same methodology to develop the 2011 cellulosic biofuel standard as we did to develop the 2012 standard....").

<sup>113</sup> NPRM at 33102.

<sup>114</sup> 78 *Federal Register* 71732 (Nov. 29, 2013).

<sup>115</sup> 79 *Federal Register* 73007-8 (Dec. 9, 2014).

<sup>116</sup> *AFPM and API v. Gina McCarthy*, No. 1:15-cv-00394, United States District Court for the District of Columbia, Mar. 18, 2015.

action, API and AFPM detailed EPA’s consistent inability or unwillingness to comply with statutory deadlines with regard to *any prior* RFS2 rulemaking. Following the initiation of litigation, a consent decree was reached with EPA and lodged with the United States District Court for the District of Columbia.<sup>117</sup> Under the consent decree, EPA is to sign a final rule or rules regarding the 2014 and 2015 RFS standards no later than November 30, 2015.

Despite the existence of the current consent decree, it is instructive to review EPA’s history in complying with RFS2 requirements. Specifically, as demonstrated by the table below, RFS rulemaking delays are not the exception, but the rule. Moreover, the length of rulemaking delays increased from 2011 to 2014, until AFPM and API sought judicial intervention:

RFS Compliance Year	Federal Register publication of final rule	Number of days late compared with statutory schedule
2010 RFS	March 26, 2010	116 days late
2011 RFS	December 9, 2011	9 days late
2012 RFS	January 9, 2012	40 days late
2013 RFS	August 15, 2013	258 days late
2014 RFS	November 30, 2015	730 days late <sup>118</sup>
2015 RFS	November 30, 2015	365 days late <sup>119</sup>

If EPA completes this rulemaking in accordance with the consent decree, it will be issuing retroactive standards for 23 months of RFS requirements (*i.e.*, all of 2014 and 11 months of 2015). When responding to issues concerning its rulemaking delays, EPA cites several cases, including litigation concerning the 2009 and 2010 RFS standards<sup>120</sup> and the 2013 RFS standards.<sup>121</sup> Under EPA’s view of this case law, delay in issuing RFS standards does not deprive EPA of authority to issue applicable volumes for past or overdue calendar years. But EPA also states that it will exercise this authority in a reasonable way.<sup>122</sup>

<sup>117</sup> Consent Decree, Civil Action No. 1:15-cv-394, United States District Court for the District of Columbia lodged April 20, 2015.

<sup>118</sup> Per consent decree, referenced *supra*.

<sup>119</sup> *Id.*

<sup>120</sup> *NPRA v. EPA*, 630 F.3d 145 (D.C. Cir. 2010).

<sup>121</sup> *Monroe Energy v. EPA*, 750 F. 3d 909 (D.C. Cir. 2014).

<sup>122</sup> NPRM at 33108.

EPA does not have unfettered discretion with regard to obeying the statutory deadlines contained in the RFS. Indeed, there is no ambiguity in the RFS compliance schedule that Congress established 2005 and reaffirmed in 2007. In EISA, Congress did not amend the statutory deadlines contained in CAA section 211(o)(3) except to extend the time that such deadlines be met (from 2011 to 2021) to reflect the extension of the applicable volume schedules contained in CAA section 211(o)(2)(B). Thus, EPA has been on notice for a full decade of the deadlines that Congress established for informing obligated parties and other interested parties of annual RFS requirements.

Courts have not required agencies to “consider all policy alternatives in reaching a decision.”<sup>123</sup> However, failure to respond to “well-founded concerns” can result in arbitrary and capricious rulemaking.<sup>124</sup> In the case of annual RFS rulemakings, EPA must consider reasonable alternatives to cure its continual violation of statutory deadlines. The history of RFS rulemakings adequately demonstrates that EPA is likely to receive voluminous comments from interested stakeholders and the public. The volume and length of comments cannot form an excuse for rulemaking delay; instead, EPA should have a reasonable estimation after 10 years of implementing the program of what needs to be accomplished each year. In addition, EPA must take affirmative action to obtain required information from the EIA regarding projected volumes of transportation fuel, biomass-based diesel, and cellulosic diesel. This information is explicitly linked to EPA’s duty to make annual determinations regarding renewable fuel obligations and applicable percentages. At bottom, EPA cannot continually fail to address these responsibilities on a recurring basis.

Specifically, with respect to this Proposed Rule, EPA must obtain the required EIA estimates under CAA section 211(o)(3)(A) and place them in the docket for this rulemaking. CAA section 307(d)(3) requires that the factual data on which the Proposed Rule is based be included in the statement of basis and purpose of the Proposed Rule. Within the context of RFS annual renewable fuel obligations, EIA estimates are not only mandatory, but they are intrinsic to the calculation of annual percentage standards. EPA’s failure to include EIA data is particularly noteworthy with respect to cellulosic biofuel. Although EPA purportedly estimates the volume of cellulosic biofuel that would be made available in the United States in 2015 and 2016, it does not rely on (or even discuss) the statutorily required EIA projections for cellulosic biofuel.

EPA must also explain more fully what it means when it states that it is “committed to returning our standard-setting process to the statutory schedule.”<sup>125</sup> Five years ago, in issuing RFS standards for 2010, EPA stated that “for future standards, we intend to issue an NPRM by summer and a final rule by November 30 of each year in order to determine the appropriate standards applicable in the following year.”<sup>126</sup> EPA must live up to these prior commitments and intentions. **Therefore, in the context of this final rule, EPA should include a discussion of how the Agency has devoted and will devote sufficient resources to the RFS program, ensured its**

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<sup>123</sup> *Delaware Dept. of Nat’l Resources v. EPA*, 13-1093 (D.C. Cir. 2015) at 28, citing *State Farm Mut. Auto. Ins. Co.*, 463 U.S. at 29 (1983)..

<sup>124</sup> “EPA must respond to serious objections.” *Id.* at 25.

<sup>125</sup> NPRM at 33102.

<sup>126</sup> 75 *Federal Register* at 14675.

coordination with EIA in a timely fashion, and addressed any significant factors that EPA believes impede its ability to comply with statutory deadlines for the RFS.

## VIII. Miscellaneous

### a. Greenhouse Gas Implications

The RFS volumes proposed by EPA for determining the percentage standards to be used by obligated parties strongly indicate that the E10 blendwall may be exceeded in 2016 particularly since, as noted earlier in these comments, growth in the use of E15 and E85 fuels is likely to be negligible during this time period. Consequently, there will likely be little room for advanced biofuels with lower lifecycle GHG scores than corn starch ethanol to displace the latter in the gasoline fuel pool. “According to EPA’s own estimates, corn grain ethanol produced in 2011 is a higher emitter of GHG than gasoline.”<sup>127</sup>

### b. Air Quality Impacts of Increased Biodiesel Usage

Biodiesel is known to increase tailpipe NOx emissions, an ozone precursor, from diesel engines.<sup>128</sup> Consequently, EPA’s proposal to increase the biomass-based diesel standard by over 48% from 1.28 billion gallons in 2013 to 1.9 billion gallons in 2017 will make efforts to meet ozone NAAQS standards more difficult for state and local air quality planners. If ozone standards are further tightened in the future, the air quality impact of biodiesel relative to other sources could become even more significant.

### c. EPA Has Not Conducted an Adequate Cost-Benefit Analysis

EPA’s Proposed Rule is arbitrary and capricious because it does not include an adequate assessment of the rule’s expected costs and benefits.

The Supreme Court recently held in *Michigan v. EPA*, No. 14-46, 2015 WL 2473453 (June 29, 2015), that EPA must conduct a cost-benefit analysis when regulating power-plant emissions under 42 U.S.C. § 7412. The Court based that holding on two considerations. *First*, the Court relied on statutory language indicating that EPA may not regulate power-plant emissions unless EPA finds that such regulation is “appropriate and necessary.” *Id.* at \*4. This language, the Court held, “requires at least some attention” to a rule’s expected costs and benefits. *Id.* at \*7. *Second*, the Court concluded that agencies generally must consider a rule’s costs and benefits,

<sup>127</sup> National Research Council, *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy*, 2011

<sup>128</sup> See, for example:

- US Environmental Protection Agency, *A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions*, EPA420-P-02-001, October 2002
- Coordinating Research Council, *Investigation of Biodiesel Chemistry, Carbon Footprint and Regional Fuel Quality*, CRC Report No. AVFL-17a, January 2011
- California Air Resources Board, *NOx Emission Impacts of Biodiesel Blends*, <http://www.arb.ca.gov/fuels/diesel/altdiesel/meetings/20141024LyonsStatistics.pdf>

since the Administrative Procedure Act requires rationality, and “reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions.” *Id.* at \*7.

Both of the conditions that required EPA conduct a cost-benefit analysis in *Michigan* are present here.

- Like 42 U.S.C. § 7412, the statute governing the RFS program, 42 U.S.C. § 7545(o), requires EPA to ensure that its regulations are “appropriate.” The latter states that RFS regulations “shall contain compliance provisions applicable to refineries, blenders, distributors, and importers, to ensure that the [program’s] requirements . . . are met.” 42 U.S.C. § 7545(o)(2)(A)(iii) (emphasis added). And it further states that EPA “shall conduct periodic reviews” “[t]o allow for the *appropriate* adjustment of the [volume] requirements.” *Id.* § 7545(o)(11) (emphasis added).
- Even if the RFS statute did not contain language similar to the provision at issue in *Michigan*, the Court’s holding that “reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions” would apply.

Nonetheless, EPA concedes in the Proposed Rule that it “ha[s] not quantified benefits for the 2015 and 2016 proposed standards” or compared the rule’s costs with its expected benefits. 80 Fed. Reg. at 33,131. EPA should remedy this error by including a complete assessment of the rule’s costs on obligated parties, consumers, and other affected parties, along with a comparison of those costs with the rule’s benefits. In conducting that assessment, EPA must keep in mind that a rule’s costs “includ[e] more than the expense of complying with regulations” and encompass “any disadvantage could be termed a cost.” *Michigan*, 2015 WL 2473453, at \*7.